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ABSTRACT BOOK

1- PREDICTING PATIENT PREFERENCE FOR MODE OF DELIVERY FOLLOWING OBSTETRIC ANAL SPHINCTER INJURY

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INTRODUCTION AND AIM OF THE STUDY

Obstetric Anal Sphincter Injuries (OASIS) occur in approximately 3% of all vaginal births in the UK.[1] All patients who suffer an OASI are offered the choice of an elective caesarean section or vaginal delivery in their subsequent pregnancy. The authors were interested to explore what factors influenced patient preference regarding mode of delivery in subsequent pregnancy following OASI. We particularly wished to investigate the influence of endoanal ultrasound results, but also considered several other potential variables, which we felt might be predictive of preferred mode of delivery. Specifically, we looked at patient demographics, mode of previous delivery, severity of OASI, symptoms and endoanal ultrasound findings. What factors, if any increase the likelihood of a patient preferring caesarean section to vaginal delivery following OASI?

MATERIALS AND METHODS

We retrospectively collected data on all patients attending a specialist OASI clinic in a large, university teaching hospital between July 2016 and February 2018. Following assessment and appropriate counselling during their clinic attendance, all patients were asked to state their preferred mode of delivery in subsequent pregnancy.

The primary predictor variable in this study was endoanal ultrasound scan results, with any anal sphincter complex defects expressed as Starck score.[2] The main outcome variable was preferred mode of delivery (vaginal versus caesarean section) in future pregnancy. Additionally, we considered patient demographics, severity of OASI, anal incontinence symptoms (using St Mark's faecal incontinence score) and mode of previous delivery to explore any bearing these variables may have had.[3]

Data on patient demographics, parity, severity of OASI, mode of previous delivery, current symptoms and results of endoanal ultrasound scan were collected. The severity of OASI was recorded as per RCOG guidelines. For the purposes of analysis, this was divided into minor tear (3a and 3b) and major tear (3c and 4) in line with other published studies. Data was analysed using the SPSS for Windows statistical package (SPSS Inc,. Chicago, IL). Chi-squared test was used to compare categorical variables and independent sample t-test to compare continuous variables. Odds ratios were then computed. Binary logistic regression analysis was used to determine significant associations between predictor variables with the preferred mode of delivery. A p-value <0.05 was considered significant.

RESULTS

A total of 188 patients were identified, of which 153 had complete data for analysis. Approximately 30% (n = 45) of patients preferred to have a caesarean section in their subsequent pregnancy. Of those patients preferring caesarean section, 69% (n = 31) were Caucasian. The mean age of patients preferring caesarean section was 31.8 years and 30.5 years in those preferring vaginal delivery.

Bivariate analysis demonstrated statistically significant associations between St Mark's faecal incontinence score and Starck score with preferring a caesarean section (p = 0.001 and p = <0.001 respectively). Severity of OASI was also predictive of caesarean section, with a major tear resulting in a four-fold increase in caesarean section as the preferred mode of delivery (unadjusted OR 3.9, 95% CI 1.7 – 9.1).

Logistic regression analysis was used to explore the relationship between age, ethnicity, parity, previous mode of delivery, severity of OASI, St Mark's faecal incontinence score and Starck score with preferred mode of delivery in subsequent pregnancy (Table 1). When all predictor variables were considered together, they significantly predicted whether a patient would opt for a caesarean section (n = 153, chi square 76.93, df 8, p = <0.001, adjusted R-squared 0.63). Logistic regression analysis showed a statistically significant association between Caucasian ethnicity and Starck score with preferring a caesarean section in subsequent pregnancy (p = 0.04 and p = <0.001 respectively). Following regression analysis, severity of OASI and St Mark's faecal incontinence score were no longer statistically significant predictors of preferred mode of delivery.

INTERPRETATION OF RESULTS

The present study is the first to explore how endoanal ultrasound scan assessment following OASI influences preference for mode of delivery in subsequent pregnancy. Any defects in the anal sphincter complex identified on endoanal ultrasound scan were expressed using the Starck score, and this was found to have a statistically significant association with patient preference for caesarean section in subsequent pregnancy (p = <0.001). Our data shows that an increase in the Starck score of one point doubles the likelihood of a patient preferring a caesarean section in their next pregnancy (OR 2.3, 95% CI 1.7 – 3.2). It would seem reasonable, therefore, to infer from this that lower Starck scores might increase the number of

patients opting for a vaginal delivery in subsequent pregnancy. This finding would support more routine use of endoanal ultrasound scan following OASI, as a reassuring result may encourage more patients to deliver vaginally in the future, reducing the cost and clinical risks associated with caesarean section. Furthermore, this objective assessment is more influential on patient preference than the presence of anal incontinence symptoms ($p = 0.33$).

Our study also highlights ethnicity as an influential variable in predicting whether a patient will choose a vaginal delivery or caesarean section after OASI, with Caucasian patients twelve times more likely to choose a caesarean section (OR 12.6, 95% CI 2.4 – 69.9). This would suggest that more careful counselling of Caucasian patients might be required to discuss the benefits associated with vaginal delivery to reduce the proportion opting for caesarean section.

CONCLUSIONS

This study highlights the significance patients attribute to endoanal ultrasound when deciding their preferred mode of delivery in a subsequent pregnancy. In contrast, the presence of anal incontinence symptoms did not significantly influence patient preference for mode of delivery. Currently, not all hospital trusts have dedicated clinics with easy access to endoanal sonography for patients following OASI. This study supports more routine use of endoanal ultrasound, as reassuring findings could potentially increase patient preference for vaginal delivery in subsequent pregnancy.

Table 1: Analysis of variables and their association with preference for caesarean section after OASI.

Variable	Odds Ratio	95% Confidence Interval		p-value
		Lower	Upper	
Age	1.0	0.9	1.1	0.75
Caucasian ethnicity	12.6	2.3	69.9	0.004
Primiparous	2.6	0.7	9.5	0.15
OASI with SVD	1.3	0.4	4.2	0.70
Minor Tear	0.9	0.1	11.3	0.98
Major Tear	1.4	0.1	23.6	0.81
St Mark's score	1.1	0.9	1.5	0.34
Starck Score	2.3	1.7	3.2	<0.001

SVD = Normal Vaginal Delivery

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2 - PELVIC FLOOR DISFUNCTION: THREE MONTHS VERSUS ONE YEAR AFTER DELIVERY FOLLOW UP. A SINGLE CENTER STUDY.

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INTRODUCTION AND AIM OF THE STUDY

Pelvic Floor Dysfunctions (PFDs) are highly prevalent after delivery, with figures up to 46% reported in the literature[1]. They are responsible for significant morbidity soon after delivery and particularly later in life. Strategies to prevent the consequences of obstetric trauma are of outmost importance. In this view a better understanding in symptoms characteristic and their changes with time are of value. In the present study we aimed at assessing the evolution of symptoms one year after delivery in women symptomatic for PFDs 3 months after delivery.

MATERIALS AND METHODS

This is a prospective observational cohort study on PFDs after delivery focusing on symptom changes between 3 and 12 months follow-up. IRB approval was obtained. All the women ≥ 32 weeks gestational age who delivered between July and December 2014 in an Italian Tertiary Referral Maternity Hospital were invited to a PFC follow-up 3 months after delivery [2]. Six-hundred-eighty-five puerperae actually came to PFC 3 month after delivery and among them 238 women presented with pelvic floor symptoms according to the criteria reported in table 1.

Table 1:Selection criteria for PFDs 3 and 12 months after delivery[3]

PFDs	Measurement tool	Cut off
Urinary incontinence (UI)	ICI-Q SF	≥ 1
Anal Incontinence (AI)	Wexner score	≥1solid/liquid &/or ≥2 gas
Prolapse	POP q staging criteria	≥ 2
Pain/Dyspareunia	Pain &/or dyspareunia VAS	> 0
Perineal Testing	Oxford score (0-5)	≤ 2

Quality of Life (QoL) was also assessed with validated questionnaires (IQOL for UI, F-IQOL for AI and FSFI for Dyspareunia).
All the 238 women symptomatic 3 months after delivery were invited to a 12 month PFC follow-up via a direct phone call with 2 subsequent recall for those who not attended. The same criteria were adopted at 12 months follow-up (Table 1). A specifically designed database was adopted and descriptive statistical analysis performed. Software Stata 9.0 (Stata Corporation, College Station, Texas, USA) was adopted and a p value < 0.05 was considered for significance.

RESULTS

One-hundred-and-thirty-nine (58.4%) women actually attended the 12 month postnatal PFC. They were comparable to those who missed it for demography, obstetrical parameters and symptoms severity 3 month postpartum (Sum-rank test *p> 0.05*).
Seventy-four women (53.2%) were still symptomatic at 12 months postnatal PFC. Symptoms distribution was comparable between 3 and 12 month (Table 2), but the finding of combined symptoms was significantly more frequent at 12 months (Table3).

Table 2: Distribution of symptoms at 3 and 12 month follow-up postpartum

Symptoms	3 month n° = 238 (%)	12 month n° = 74 (%)*
USI	86 (27%)	30 (27%)
Iurge	27 (8%)	15 (13%)
Mixed	15 (5%)	6 (5%)
Gas I	31 (10%)	5 (4%)
Faecal I	6 (2%)	6 (5%)
POP	4 (1%)	2 (2%)
Pain/Dispareunia	55 (17%)	17 (15%)
Muscle Disfunction	97 (30%)	31 (28%)
TOTAL n of symptoms	358	112

** p-value Fisher's Exact test = 0.226*

Table 3: Comparison of symptoms combination between 3 and 12 months postpartum follow-up

	Symptomatic women	
Symptom Combination	**3 months n° = 238 (%)**	**12 months n° = 74 (%)***
1 symptom	163 (68%)	42 (57%)
2 symptoms	67 (28%)	26 (35%)
3 symptoms	8 (3%)	6 (8%)

** p-value Fisher's exact test < 0.0001*

Except from the improvement in pain &/or dyspareunia the severity of symptoms remained unchanged (table 4), while the impact of symptoms on QoL worsened for UI and improved for dyspareunia (Table 5).

Table 4.: Evolution of Symptoms scores at 12 months in symptomatic women.

Symptoms [scores] (n pts)	**3 months**	**12 months**	***Value of p (paired t test)***
UI [ICI-Q SF] (28)	9.4 ± 3.7	8.7±3.5	*0.212*
AI [Wexner score] (5)	2.2±0.4	5± 2.7	*0.054*
Pain/Dyspareunia [VAS] (9)	8.2±2.4	6.2±2.0	*0.049*
Perineal Testing [Oxford score] (9)	1.3±0.7	1.6±0.7	*0.173*

Table 5: Evolution of QoL scores at 12 months in symptomatic women.

QoL questionnaire		**n. of pts.**	**Mean ± SD**	**Range (min-max)**	***P****
IQOL	3 months	119	91.4 ± 13.5	47-124	*0.003*
	12 months	43	84.3 ± 16.9	39-110	
F-IQOL	3 months	12	107.7 ± 27.2	38-144	*0.492*
	12 months	10	107.9 ± 17.5	71-134	
FSFI	3 months	48	44.2 ± 18.2	6-78	*0.007*
	12 months	15	58.3 ± 20.3	6-85	

* Student t test

INTERPRETATION OF RESULTS

The adherence rate to a dedicated pelvic floor follow-up one year after delivery in women symptomatic 3 months postpartum is 58%. The subset of 139 puerperae that we were able to assess 12 months after delivery is representative of the whole population of the sudy. At 12 months follow-up 47% of previously symptomatic women become asymptomatic. In those still complaining of PFDs one year after delivery, symptoms distribution remains unchanged but more frequently symptoms associations were observed. Among them a significant reduction in the scoring for pain and dyspareunia reflects in an improvement at FSFI. Scores for UI (ICIqSF) remained unchanged, but a significant worsening in QoL was observed. Concerning AI the number of women complaining of Gas Incontinence reduced a lot, while the number of those complaining Faecal Incontinence didn't change. Worsening scores, close to statistical significance, were observed for AI without any modification over time on QoL

CONCLUSIONS

Half of women symptomatic 3 months postpartum still complain of symptoms one year after delivery. At that time symptoms combination are more frequently observed. While pain and dyspareunia became less a problem with time, the persistence of UI shows a detrimental impact on QoL. FI in comparison to GI tend to persist as a clinical relevant problem. Our study further confirm the need to provide effective treatment for women symptomatic soon after delivery. Further studies with higher numbers are needed.

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3 - DYNAMIC MAGNETIC RESONANCE IMAGING TO QUANTIFY PELVIC ORGAN MOBILITY AFTER TREATMENT FOR UTERINE DESCENT: DIFFERENCES BETWEEN SURGICAL PROCEDURES

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INTRODUCTION AND AIM OF THE STUDY

Nowadays, many procedures for uterine suspension are available using the vaginal, abdominal or laparoscopic route. The risk for recurrent prolapse of the anterior vaginal wall after vaginal sacrospinous hysteropexy is often discussed with incidences ranging from 5.8 to 21.3% [1]. It is hypothesized that the high rates of recurrence in the anterior vaginal wall after vaginal sacrospinous hysteropexy may be related to the previously incurred damage of neuromuscular supports, the change in vaginal axis to a more posterior and horizontal position or a combination of these two [1]. Studying pelvic mobility after surgery for uterine prolapse is of interest, because it might give an explanation of the high rate of recurrence of anterior vaginal wall prolapse after vaginal sacrospinous hysteropexy. The aim of this study is to assess the mobility of pelvic organs after surgical treatment for uterine prolapse.

MATERIALS AND METHODS

Three different surgical procedures for uterine descent were analyzed: vaginal sacrospinous hysteropexy (VSH), laparoscopic sacrohysteropexy (LSH) and vaginal hysterectomy (VH). Six months after surgery, 15 women (5 of each procedure) underwent dynamic MRI and gynecological examination (to assess POP-Q) and filled out a questionnaire regarding POP complaints. Pelvic mobility on MRI was defined as the vertical displacement (mm) of pelvic organs between rest and maximal straining (figure 1). The displacements and angles were measured using image registration method [2]. Three areas (anterior vaginal wall, posterior vaginal wall and cervix/vaginal vault) were analyzed. Furthermore, the angle of displacement of the cervix/vaginal vault was assessed (figure 1).

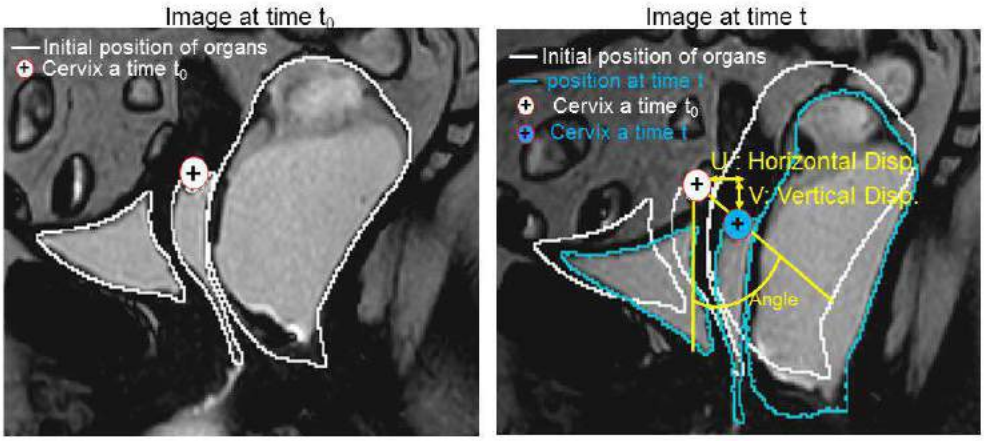

Figure 1. Assessing pelvic mobility using MRI.

RESULTS

Baseline characteristics are similar for all groups (table 1). Postoperative characteristics of women are demonstrated in table 2. Pain during defecation was significant higher in the LSH group as compared to VSH and VH. Other postoperative prolapse symptoms were comparable between all groups. POP-Q assessment was similar in all groups and no recurrence of POP occurred. No significant differences were found in pelvic mobility of the anterior vaginal wall, the posterior vaginal wall and the cervix/vaginal vault (figure 2). Furthermore, no differences were found in the angle of displacement of the cervix/vaginal vault (data not shown).

Table 1. Baseline characteristics of women. Values are numbers (percentages) unless stated otherwise.

Characteristics	Vaginal sacrospinous hysteropexy (n=5)	Laparoscopic sacrohysteropexy (n=5)	Vaginal hysterectomy (n=5)	p-value*
Median (IQR) age (years)	62 (57-68)	68 (48-70)	57 (50-68)	0.690

Median (IQR) body mass index	25.7 (23.5-27.5)	24.5 (21.4-27.7)	25.5 (24.3-28.8)	0.482
Median (IQR) parity	3 (2-6)	3 (2-6)	3 (2-4)	0.815
Median (IQR) time between surgery and MRI (weeks)	33 (31-39)	31 (27-44)	31 (28-34)	0.606
Concomitant surgery				
Anterior colporrhaphy	4 (80)	3 (60)	5 (100)	0.287
Posterior colporrhaphy	1 (20)	1 (20)	2 (40)	0.711

* p value using Kruskal-Wallis or Chi-square test as appropriate
IQR = interquartile range

Figure 2. Vertical displacement (mm) of anterior vaginal wall (AV), posterior vaginal wall (PV) and cervix/vaginal vault (C/VV) assessed with MRI 6 months after vaginal sacrospinous hysteropexy (VSH), vaginal hysterectomy (VH) and laparoscopic sacrohysteropexy (LSH).

INTERPRETATION OF RESULTS

In this pilot study, dynamic MRI 6 months after VSH, LSH and VH demonstrated no differences in pelvic mobility of anterior vaginal wall, posterior vaginal wall and cervix/vaginal vault.

Table 2. Postoperative characteristics of women. Values are medians (interquartile range) unless stated otherwise.

Characteristics	Vaginal sacrospinous hysteropexy (n=5)	Laparoscopic sacrohysteropexy (n=5)	Vaginal hysterectomy (n=5)	p-value*
Postoperative prolapse symptoms				
Urogenital distress inventory †				
Overactive bladder	22 (0 – 44)	0 (0 – 17)	0 (0 – 22)	0.481
Urinary incontinence	33 (0 – 83)	0 (0 – 25)	17 (8 – 25)	0.449
Obstructive micturition	0 (0 – 17)	0 (0 – 0)	0 (0 – 33)	0.317
Genital prolapse	0 (0 – 8)	0 (0 – 8)	0 (0 – 8)	1.000
Pain	0 (0 – 17)	33 (8 – 50)	0 (0 – 8)	0.066
Defecatory distress inventory †				
Obstipation	0 (0 – 25)	0 (0 – 0)	0 (0 – 25)	0.289
Obstructive defecation	0 (0 – 0)	0 (0 – 4)	0 (0 – 8)	0.311
Pain	0 (0 – 0)	17 (0 – 25)	0 (0 – 0)	0.031
Incontinence	0 (0 – 0)	0 (0 – 8)	0 (0 – 0)	0.368
Postoperative POP-Q‡				
Aa	-3 (-3 to -1)	-3 (-3 to -1)	-2 (-3 to -1)	0.724
Ba	-3 (-3 to -3)	-3 (-3 to -3)	-3 (-3 to -2)	0.291
C	-8 (-9 to -8)	-8 (-9 to -8)	-9 (-9 to -8)	0.330
gh	4 (3 to 4)	4 (4 to 4)	4 (4 to 5)	0.565
pb	3 (3 to 4)	3 (3 to 4)	3 (3 to 4)	0.565
tvl	10 (10 to 10)	10 (10 to 11)	9 (9 to 11)	0.418
Ap	-3 (-3 to 1)	-3 (-3 to -3)	-3 (-3 to -3)	0.638
Bp	-3 (-3 to -3)	-3 (-3 to -3)	-3 (-3 to -3)	1.000

Table 2. Postoperative characteristics of women. Values are medians (interquartile range) unless stated otherwise.

Characteristics	Vaginal sacrospinous hysteropexy (n=5)	Laparoscopic sacrohysteropexy (n=5)	Vaginal hysterectomy (n=5)	p-value*
Postoperative prolapse symptoms				
Urogenital distress inventory †				
Overactive bladder	22 (0 – 44)	0 (0 – 17)	0 (0 – 22)	0.481
Urinary incontinence	33 (0 – 83)	0 (0 – 25)	17 (8 – 25)	0.449
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Genital prolapse	0 (0 – 8)	0 (0 – 8)	0 (0 – 8)	1.000
Pain	0 (0 – 17)	33 (8 – 50)	0 (0 – 8)	0.066
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C	-8 (-9 to -8)	-8 (-9 to -8)	-9 (-9 to -8)	0.330
gh	4 (3 to 4)	4 (4 to 4)	4 (4 to 5)	0.565
pb	3 (3 to 4)	3 (3 to 4)	3 (3 to 4)	0.565
tvl	10 (10 to 10)	10 (10 to 11)	9 (9 to 11)	0.418
Ap	-3 (-3 to 1)	-3 (-3 to -3)	-3 (-3 to -3)	0.638
Bp	-3 (-3 to -3)	-3 (-3 to -3)	-3 (-3 to -3)	1.000
D	-8 (-10 to -8)	-8 (-10 to -8)	not applicable	1.000

* p value using Mann Whitney-U test or Kruskal-Wallis as appropriate

† 0=no symptoms or not bothersome to 100=most bothersome symptoms

‡ System involves quantitative measurements of various points of vaginal wall with hymen as reference point. Degree of prolapse of anterior vaginal wall (Aa and Ba), posterior vaginal wall (Ap and Bp), and uterus or vaginal vault (C) measured in centimeters both above or proximal to hymen (negative number) or beyond or distal to hymen (positive number), with plane of hymen defined as zero. A represents the descent of a measurement point 3 cm proximal to the hymen on the anterior (Aa) and posterior (Ap) vaginal wall. B is the most descended edge on the anterior (Ba) and posterior (Bp) vaginal wall.

CONCLUSIONS

Based on these data, no explanation for the possible recurrence of cystocele after VSH was found. Studying women with recurrent prolapse is of need to assess a possible relation between pelvic mobility and the development of anterior recurrence.

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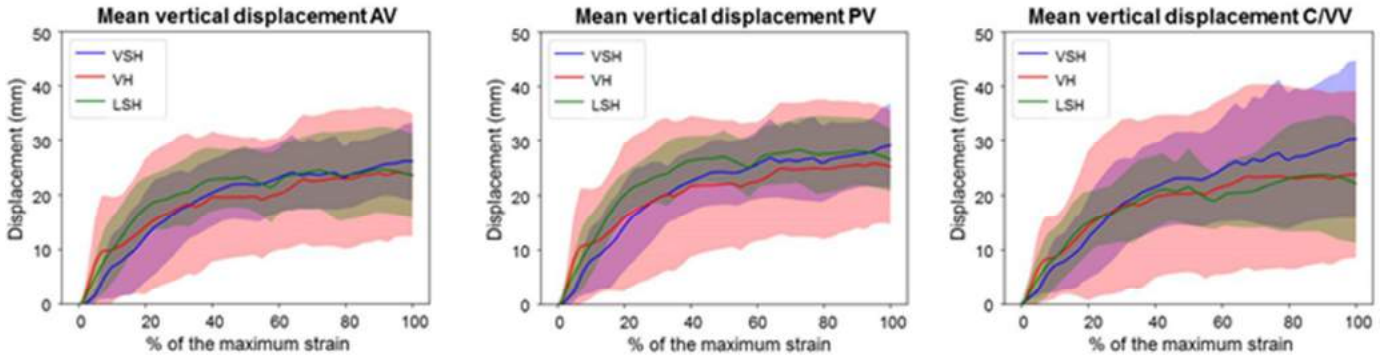

4 - *PERINEAL PAIN FOLLOWING VAGINAL DELIVERY IN RELATION TO DEGREES OF PERINEAL TRAUMA: A PROSPECTIVE COHORT STUDY*

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INTRODUCTION AND AIM OF THE STUDY

Perineal trauma, spontaneous or iatrogenic, is a common cause of postpartum perineal pain[1,2].The intensity of perineal pain is reported to increase in the severity of perineal trauma is claimed to be high in the episiotomy group[1,2,3]. However, evidence is limited as studies have short follow-up times and differ in methodology. Consequently, the incidence of perineal pain during the first weeks following vaginal delivery in different types of perineal trauma remains undetermined. We aim to clarify how the incidence and intensity of perineal pain following vaginal childbirth relates to the severity of perineal trauma during the first six weeks postpartum.

MATERIALS AND METHODS

This prospective cohort study was conducted in the Netherlands from October 2016 until June 2018. The study population comprised pregnant women over the age of 18 years with singleton pregnancies and cephalic presentation who delivered vaginally. We classified eligible patients into three groups based on the severity of perineal trauma: intact perineum or first-degree tear (n=36), second-degree tear (n=36) and episiotomy (n=32). Main outcome measures are the frequency of clinically relevant perineal pain (defined by an NRS score ≥ 4) and perineal pain intensity (measured by the McGill Pain Questionnaire, MPQ-DLV). Eligible women filled in questionnaires daily during the first seven days postpartum and repeated them once six weeks postpartum. Correction for potential confounding variables (maternal age, ethnicity, education, parity, operative vaginal delivery) will be applied in a later stage of this research. Statistical analyses were performed with SPSS Statistics, version 24.

RESULTS

The frequency of clinically relevant perineal pain (NRS score ≥ 4) on the day of delivery was 63.6 % (21/33) for women with intact perineum or first-degree tears, 67.7 % (23/34) for women with second-degree tears and 93.3 % (28/30) for women with episiotomies. For women with clinically relevant pain on the day of delivery (NRS score ≥ 4), we assessed the time until pain scores switched to NRS < 4. Results of this survival analysis are displayed in Figure 1. On the seventh day postpartum frequencies of clinically relevant pain declined to 10 % for women with intact perineum or first degree tears, 19 % for women with second degree tears and to 50 % for women with episiotomies. Time until pain scores switched to NRS <4 significantly differed between both women with intact perineum or first-degree tears and second degree tears versus episiotomies (p < 0.01). No significant differences were found between the intact perineum or first-degree tear and second-degree tear group.

Figure 1. Survival Curve indicating the cumulative proportion of patients having clinically relevant pain during the first seven days postpartum (defined as NRS score ≥ 4).

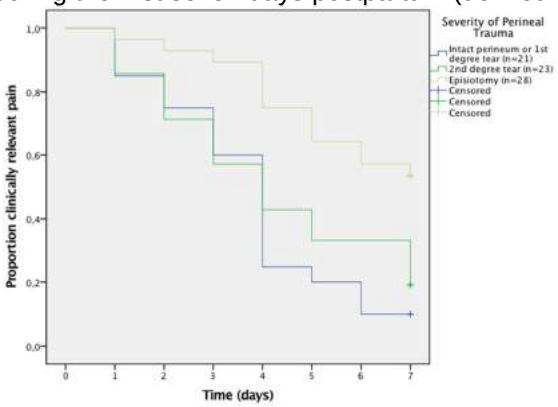
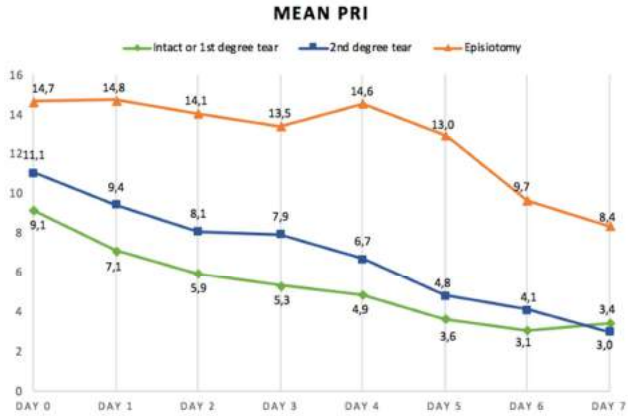


Figure 2. Mean PRI scores in different types of perineal trauma.



To assess pain intensity we determined differences in mean Pain Rating Index (PRI) scores across perineal trauma groups. PRI scores range from 0, indicating no pain, to 63, indicating maximum pain intensity. Mean PRI scores were found to be significantly different in women with episiotomies versus intact perineum and first degree tears from day 1 until day 7 and 6 weeks postpartum ($p<0.05$) and also significantly differed in the episiotomy group compared to the second-degree tear group from day 5 until day 7 and 6 weeks postpartum ($p <0.05$). Six weeks postpartum, none of the women with intact perineum, first- or second-degree tears indicates to experience clinically relevant perineal pain, compared to 12 % (3/25) of women in the episiotomy group.

INTERPRETATION OF RESULTS

The frequency of clinically relevant perineal pain on the day of delivery is high in all groups of perineal injury and increases with the extension of perineal trauma. After 7 days, the frequency of clinically relevant pain decreased to 10 % and 19 % for women with intact perineum or first-degree tears and second-degree tears respectively, but remains remarkably high in the episiotomy group (50 %). Six weeks postpartum, still 12 % of women with episiotomies experiences clinically relevant pain versus none of the women in the intact perineum, first- or second-degree perineal tear group. Time until perineal pain switched from clinically relevant (NRS score ≥ 4) to NRS < 4 was much higher for women with episiotomies compared to women with intact perineum or first-degree tears and second-degree tears ($p < 0.01$). The experienced intensity of perineal pain was especially high in the episiotomy group compared to women with intact perineum or first-degree tears and second-degree tears. Pain intensity was low in all perineal trauma groups after six weeks postpartum.

CONCLUSIONS

Perineal pain following vaginal delivery is present in all types of perineal trauma. However, both incidence and intensity of perineal pain are significantly higher in the episiotomy group. It is important that clinically relevant perineal pain always needs to be treated.

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5 - KIELLAND ROTATIONAL FORCEPS: IS IT SAFE FOR THE MOTHER?

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INTRODUCTION AND AIM OF THE STUDY

Kielland forceps is an obstetrical instrument specially designed to resolve foetal head malposition. Its use may decrease caesarean section rates. However, the instrument has become obsolete in many countries because of the perception of increased risk of maternal trauma, and changes in obstetrical practice towards the use of vacuum devices. A recent metaanalysis found Kielland forceps to be safe and favoured its use over vacuum (1), without considering trauma to the levator ani muscle, the primary etiological factor in prolapse and prolapse recurrence.
It has been estimated that the rate of avulsion in forceps deliveries is between 30 and 65%, with an odds ratio that ranges from 3.4 and 32 relative to vacuum or normal vaginal delivery. Rotational forceps, with rotation over 45º, are considered to be of greater technical difficulty and may be associated with a higher rate of pelvic floor trauma (2), without there being any data comparing rotational and non-rotational Forceps. The aim of the present study was to undertake such a comparative study between rotational and non-rotational Forceps, and to identify other possible risk factors for avulsion in our population.

MATERIALS AND METHODS

This was a retrospective observational study carried out at a tertiary hospital which recruited primiparous women with previous forceps delivery between March 2012 and May 2017. Exclusion criteria were twin and breech deliveries, and C-section after failed forceps delivery. At the authors' institution there are over five thousand deliveries per year. The Caesarean section rate is approx. 11.5%, the forceps rate about 10%. Kielland forceps has been the only obstetrical instrument used for rotational delvery at this institution and has been performed in a standardised fashion for more than 25 years.
All women who consented to participate and met inclusion criteria underwent a urogynaecological interview, Pelvic Organ Prolapse Quantification (POPQ) scoring and 4D translabial ultrasound (TLUS). TLUS was performed in a dorsal lithotomy after voiding using a Voluson 730 Expert system. Stored 4D TLUS volumes were analysed offline blinded to all data using 4D view by one of the authors with over 25 years' experience in pelvic floor ultrasound. Tomographic Ultrasound Imaging was used to diagnose avulsion on maximum pelvic floor contraction as described previously (3).
Obstetrical data were obtained from the local electronic data base (Drago). Variables recorded were maternal age at birth, body mass index at birth, total weight gain during pregnancy, ethnicity, duration of second stage of labour, birthweight and head circumference, episiotomy, vaginal tears, type of analgesia, operators' years of experience, forceps indication, shoulder dystocia, foetal position when applying the forceps, the degree of rotation, and time since the delivery at assessment.

RESULTS

A total of 171 patients were seen for assessment. Of those, 2 were excluded due to missing ultrasound datasets, and 4 due to missing data on type of forceps performed, leaving a total of 165 patients for primary analysis and 169 for secondary analysis. Average age at delivery was 33 years (SD 5, 18-47) and mean BMI at delivery was 30.2 (SD 5.2, 20.8-47.7) kg/m2. Rotational forceps with rotation of more than 45 degrees accounted for 27.3% (45/165) of the study sample (table 1). Avulsion was present in 42% (71/169) of all forceps deliveries. All women enrolled were Caucasian except for one. Mean completed gestational age at delivery was 40 weeks (SD 1.5,35-42). Mean follow up from delivery was 21 months (SD 14, 2-69).
Rotational forceps is associated with avulsion with an Odds ratio of 2.45 (CI 1.22-4.93). Other risk factors associated with avulsion are listed in table 2. No significant associations were found between avulsion and epidural anaesthesia, forceps indication, cervical and perineal tears, foetal head circumference, BMI, total weight gain during pregnancy, maternal and gestational age at delivery, induction, cervical ripening with local prostaglandins, shoulder dystocia, and time of first and second stage of labour

Table 1: Risk factors associated with avulsion in forceps deliveries

		AVULSION YES %(n)	No %(n)	OR (95% CI)	p value
Rotation >45º	No	35,8 (43/120)	64,2 (77/120)		

	Yes	57,8 (26/45)	42,2 (19/45)	2.45 (1,22-4,93)	0,011
Posterior or transverse position before beginning forceps	No	33 (38/115)	67 (77/115)		
	Yes	60,8 (31/51)	39,2 (20/51)	3,14 (1,59-6,22)	0,001
Vaginal tear	No	34 (34/100)	66 (66/100)		
	Yes	52.9 (36/68)	47.1 (32/68)	2.18 (1.16-4.10)	0,015
Operator	Resident	34,3 (35/102)	65,7 (67/102)		
	Specialist	53,7 (36/67)	46,3 (31/67)	2,22 (1,18-4,18)	0,012
Forceps performed by Specialist after resident failed	No	37,8 (51/135)	62,2 (84/135)		
	Yes	58,8 (20/34)	41,1 (14/34)	2.35 (1.09-5.06)	0,026

INTERPRETATION OF RESULTS

As far as the authors are aware, this is the first study to compare major levator trauma in rotational forceps to non-rotational forceps. It is also the first to analyse the influence of operators' experience on pelvic floor trauma. Kielland rotational forceps, even in the most experienced hands, implies a markedly increased risk of avulsion when compared to a non-rotational forceps. Obstetricians should be aware of this excess risk before applying a forceps in occiput posterior position. In some jurisdictions this information may also have to be shared with the patient in order to avoid accusations of 'failure to warn'.

We found a significantly higher avulsion rate with increasing experience. This may be due to the fact that a senior specialist is likely to perform a forceps if it is considered of a higher degree of complexity or after a resident has failed. However, this may also indicate that avulsion in forceps is not dependent on trainees' experience rather than the forceps itself.

We found a significant association between vaginal tears and avulsion which is in concordance with the literature.

CONCLUSIONS

Rotational Kielland forceps is associated with a higher avulsion rate than non-rotational forceps with an Odds ratio of 2.45 even in highly trained hands. Obstetrician need to consider the potential long-term maternal consequences of performing a forceps when foetal head position is other than in the occiput anterior position. More studies are needed to analyse whether digital rotation prior to Forceps may reduce avulsion rates.

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6 - CHANGES OVER TIME OF THE SPECIFIC CONTRIBUTION OF VARIOUS RISK FACTORS FOR OBSTETRIC ANAL SPHINCTER INJURIES (OASIS).

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INTRODUCTION AND AIMS OF THE STUDY

Obstetric anal sphincter injuries (OASIS) are important complications of vaginal deliveries and may result in short and long term pelvic floor morbidity, which may negatively impact the quality of life of young healthy women. The prevalence of OASIS in studies around the world ranges from 0.1%-%8.7. There seems to be an unexplained trend of increasing occurrence of OASIS worldwide, possibly associated with changes of risk factor prevalence. There is no previous study that explores the impact of the changes over time of individual risk factors on the risk for OASIS.

The main aim of this study is to examine temporal trends in prevalence and odds ratio (OR) of the major risk factors known to be associated with OASIS over a 30 year period.

MATERIALS AND METHODS

This is a retrospective cohort study, including all vaginal deliveries between the years 1988-2016 in a tertiary university medical center. We divided the timespan into 3 periods (1988-1997, 1998-2007, 2008-2016) and compared the prevalenceof risk factors in each time period. We performed logistic regression analysis to examine the associations between OASIS and the different risk factors in 3 time periods, and finally we evaluated the trends in OR of the significant risk factors over the years with a multivariate logistic regression analysis.

RESULTS

During the study period there were 295,668 vaginal deliveries in our medical center. Of these, 591 were diagnosed with OASIS (0.2%). The significant risk factors for OASIS ($p < 0.05$) in the multivariable analysis were: primiparity, vaginal birth after caesarean (VBAC), vacuum extraction, and birth weight >4kg. The trends over time showed a significant ($p < 0.05$) increase in incidence of primiparity, vaginal birth after caesarean (VBAC) and vacuum extraction. No change was found in the incidence of birth weight >4 kg (Figure 1). Additionally, a significant increase in the risk of OASIS associated with primiparity, and VBAC but not with birth weight >4 kg, and a decrease in the risk of OASIS associated with vacuum extraction was noted during the study period (Figure 2).

INTERPRETATION OF RESULTS:

While some known risk factors for OASIS have increased over time, others have not. These changes do not necessarily translate to changes in the specific contribution of each factor to the risk for OASIS. While the specific contributions of some known risk factors for OASIS have increased over time the specific contributions of others have not. The lack of increase of birth weight >4 kg may be due to the selectivity of our study population, as we included only vaginal births and excluded all elective caesarean sections, many of which might have been due to macrosomia.

CONCLUSIONS

We have shown significant temporal trends in the prevalence of some known risk factors for OASIS and OR's associated with them. A better understanding of the changes in prevalence and specific contribution of certain risk factors for OASIS may explain in part the worldwide increase in the prevalence of this important and detrimental complication of vaginal births.

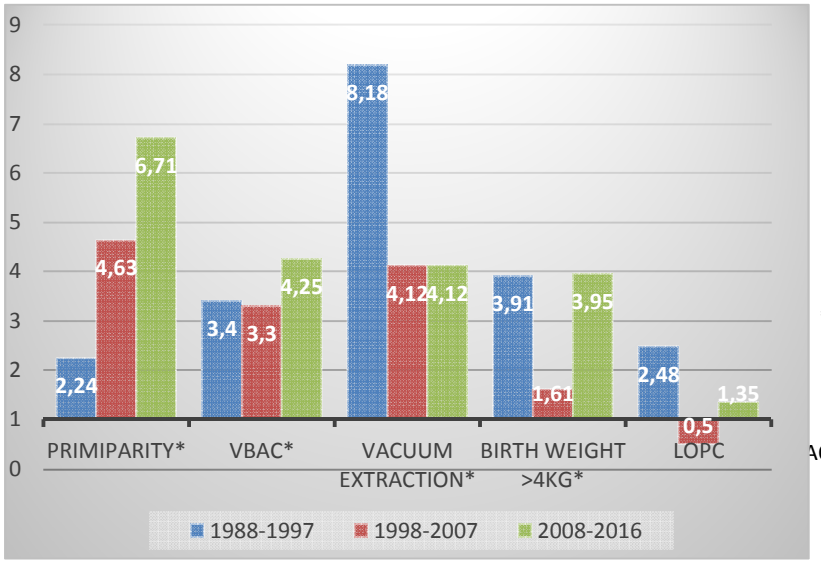
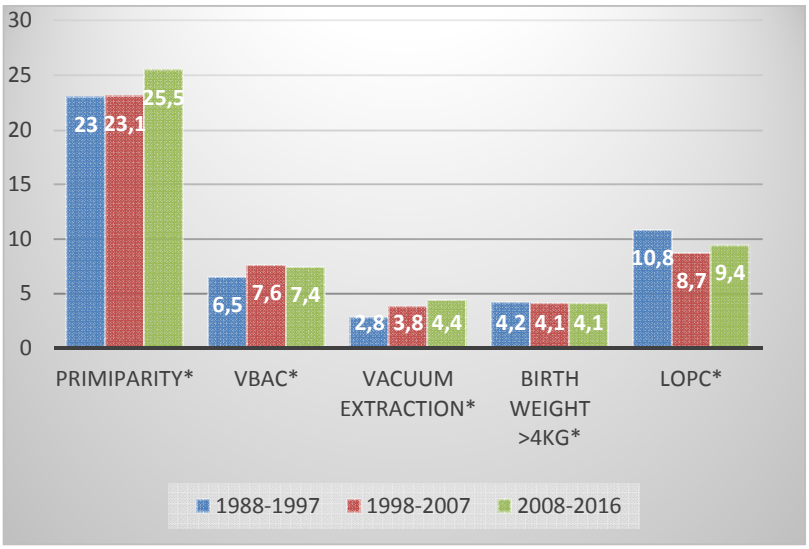


Figure 1- Prevalence (%) of risk factors for Obstetric Anal Sphincter Injuries (OASIS) by time period.

*p <0.05



LOPC- lack of prenatal care.
VBAC- vaginal birth after caesarean.

Figure 2- Risk factors for Obstetric Anal Sphincter Injuries (OASIS): multivariate logistic regression in 3 time periods.

*p <0.05

LOPC- lack of prenatal care.
VBAC- vaginal birth after caesarean

7 - SURGICAL INDICATION FOR PELVIC ORGAN PROLAPSE: IS IT POSSIBLE TO PREDICT IT PRIOR TO PHYSICAL EXAMINATION?

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse is a common condition affecting a large number of women. Management depends upon symptoms, women quality of life and the type and grade of the prolapse as well as any associated medical co-morbidities. Management options include expectant, conservative or surgical approaches [1].
Questionnaires are increasingly used in health care in order to measure health-related quality of life (HRQoL) on an objective scale. Physical examination in the assessment of POP plays a central role.
Assuming that symptom severity, that we can quantify with HRQoL questionnaires, strongly correlates with prolapse size [2] and prolapse size is one of the major criteria while selecting a woman for surgery, we thought that a questionnaire on quality of life, given to women symptomatic for POP before clinical examination, could help in optimizing time, organization, patient counselling and may be used for epidemiological studies.
The role of validated HRQoL Questionnaires in this area have not been fully explored.
Aim of this study was to investigate the potential of an electronic pelvic floor HRQoL questionnaire [Italian ePAQ (IePAQ)] to predict the selection for surgery among women complaining of POP symptoms.

MATERIALS AND METHODS

Consecutive women symptomatic for genital prolapse, after informed consent signature, underwent clinical evaluation including symptom assessment via paper (UDI) and electronic (IePAQ) questionnaires, physical examination (POP-Q ICS), and Urodynamic investigation. At the end of clinical assessment one senior urogynecologist (MS) decided on *conservative* vs *surgical* treatment. Baseline clinical records of women undergoing *conservative* treatment (conservative group) were compared with those from women undergoing *surgery* (surgical group). Univariate analysis was performed and Roc curve on significantly different IePAQ domains were applied to establish cutoff scores associated to the clinician decision. Statistical analysis was performed via Software Stata 9.0 (Stata Corporation, College Station, Texas, USA) and a p value < 0.05 was considered for significance.

RESULTS

88 women were enrolled. For 59 of them a conservative treatment was decided, while in 29 cases surgery was the option. The two groups were similar in terms of age, BMI, parity, menopausal status, time to complete IePAQ (table 1). According to UDI questionnaire only obstructive symptoms (os domain) were significantly associated with the clinical decision for surgery, while IePAQ scored significantly for Prolapse and QoL domains (table 2). Concerning physical examination women undergoing surgery had significantly higher pop stages but this was true exclusively for anterior and central segments (Figures 1 & 2). The Roc curve Area for Prolapse and QoL IePAQ domains were respectively 0.777 (95% CI 0.680-0.875) and 0.713 (95% CI 0.598-0.829). Once merged the two IePAQ domains showed an Area under the Roc Curve of 0.778 (95% CI 0.681-0.875) (Figure 3). According to this a merged (Prolapse + QoL) IePAQ score ≥ 38.1 has a sensitivity of 93.1% and a specificity of 55.9% for identifying women that will be selected for surgery.

INTERPRETATION OF RESULTS

In our study over 88 consecutive women complaining of prolapse symptoms, patients selected for POP surgery were similar to those for whom a conservative treatment was chosen, except for a higher severity of the anterior and central descent. Validated pathology specific questionnaires are capable to discriminate the two groups: UDI questionnaire scored significantly different in the obstructive domain and the electronic IePAQ did it in the prolapse and QoL domains. Merging the two IePAQ domains (prolapse and QoL) make it possible to predict women subsequently selected for surgery: a cut-off value ≥ 38.1 shows 93% sensitivity and 56% specificity.

CONCLUSIONS

An electronic HRQoL questionnaire (IePAQ) was able to predict accurately “a priori” (before physical examination) which women would be selected for surgery. This questionnaire could be easily filled in at home, prior to consultation, resulting in a valid tool for planning diagnostic and surgical needs for the health system. This is a preliminary investigation with some limitations. First of all a further detail in patients

features would be necessary. Secondly it is strictly correlated with the personal surgeon criteria for selecting women for surgery. Nevertheless is there a potential area of interest for future research.

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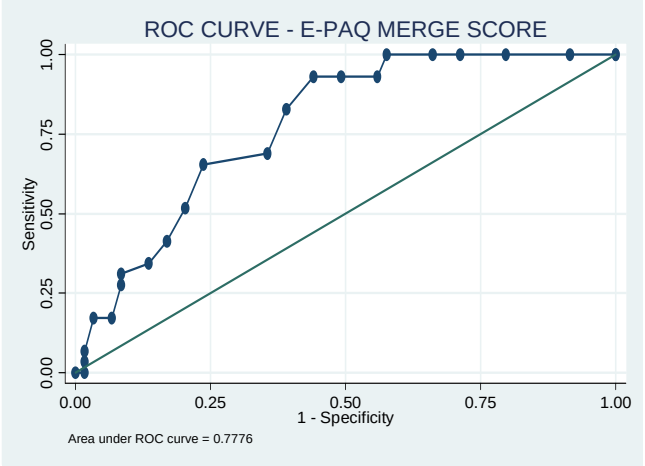
Table 1: Patients features and time to fill in the electronic questionnaire (IePAQ)

		Conservative group (n° = 59)	Surgical group (n° = 29)	Rank sum test Kruskal Wallis
Age (years)	mean±SD	67 ± 10	69 ± 9	
	median (Range)	69 (42 – 91)	70 (48 – 83)	0.455
BMI	mean±SD	25.9 ± 3.6	25.9 ± 3.2	
	median (Range)	26.3 (18.9 – 33.5)	25.7 (20.3 – 32.5)	0.933
Menopausal status (months)				
	mean±SD	202 ± 127	201 ± 97	0.908
	median (Range))	198 (0 – 516)	186 (0 – 384)	
Parity	mean±SD	2.1 ± 0.9	2.5 ± 2.1	0.454
	median (Range)	2 (0 – 5)	2 (1 – 12)	
Time to complete ePAQ	mean±SD	8.7 ± 3.4	10.3 ± 3.7	0.074
	median (Range)	8 (3 - 20)	9 (5 – 18)	

Table 2: Comparison of UDI and IePAQ questionnaire domains between conservative vs surgical group

UDI domains		Conservative group (n° = 59)	Surgical group (n° = 29)	Rank sum test Kruskal Wallis
IS – score	mean±SD	36.7 ± 26.2	28.0 ± 20.5	
	median (Range)	33.3 (0 – 88.9)	22.2 (0 – 66.7)	0.166
OS score	mean±SD	27.6 ± 22.4	36.7 ± 17.0	
	median (Range)	24.2 (0 – 90.9)	36.4 (6.1 – 72.7)	0.023
SUI score	mean±SD	33.9 ± 35.1	32.2 ± 26.3	
	median (Range)	33.3 (0 – 100)	33.3 (0 – 83.3)	0.842
IePAQ domains				
Pain	mean±SD	25.4 ± 18.5	27.6 ± 19.4	
	median (Range)	25.0 (0 – 66.7)	25.0 (0 – 83.3)	0.661
Capacity	mean±SD	5.8 ± 13.6	4.2 ± 10.5	
	median (Range)	0 (0 – 66.7)	0 (0 – 44.4)	0.791
Prolapse	mean±SD	38.8 ± 29.2	67.2 ± 20.9	
	median (Range)	41.7 (0 – 100)	75.0 (8.3 – 100)	0.0001
QoL	mean±SD	26.1 ± 28.0	46.7 ± 31.2	
	median (Range)	16.7 (0 – 100)	44.4 (0 – 100)	0.001

Figure 3: ROC curve applied to merged (prolapse & QoL) IePAQ domains



8 - *RISK FACTORS AND OUTCOME OF REPAIR OF OBSTETRIC ANAL SPHINCTER INJURIES AS FOLLOWED UP IN A DEDICATED PERINEAL CLINIC.*

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Introduction and aim of the study

Anal incontinence affects the psychological, social and physical well-being of women. There is conflicting evidence in the literature regarding the association of grade of sphincter tear and severity of symptoms. The aim of this study was to evaluate the risk factors leading to obstetric anal sphincter damage, and the outcome for women at 6-8 months post-delivery. Endo-anal ultrasound was used to correlate anal sphincter tone and the extent of anal sphincter injury in terms of quadrant defects noted on ultrasound.

Materials and Methods

A prospective cohort study was performed of all patients attending the postnatal perineal clinic at 4-12 months postpartum, from January 2016 until October 2017. Women completed the St. Mark Questionnaire (MHQ) at this visit. This scores symptoms of flatus and solid and liquid stool incontinence from 0 (never) to 4 (always). Women also underwent endoanal ultrasound examination and assessment of tone using digital examination, both with the woman in the left lateral position. This was interpreted by a single physician with long standing experience in endoanal ultrasonography. Digital examination consisted of assessment for fissures, haemorrhoids, perianal skin tags and categorised tone as normal, reduced, increased or poor technique. Women were categorised into minor tears involving damage to EAS only (3a and 3b) and major tears involving damage to IAS and EAS (3c and 4th degree)

Results

A total of 436 women were referred with a mean age of 34 years (5.6), parity of 1.6 (range 1-5) and these women were followed up at 6-12 months. A total of 57 women (15.5%) were reviewed following a major tear (4th degree, n=21, 3c, n=36) and 310 (84.5%) were reviewed following a minor tear (3a n=168, 3b, n=142). Of these, 52% had an SVD (spontaneous vaginal delivery), 20% had a forceps delivery, 16% had a ventouse delivery, and 12% had a combined forceps/ventouse delivery. Five percent had a VBAC (vaginal birth after caesarean-section). Twenty percent were induced, 63% had an epidural, 46% underwent an episiotomy, 13% had a rapid labour, 7% had an occipito-anterior presentation (51% did not have presentation documented) and 3% had a shoulder dystocia.
Both parity and instrumental delivery were risk factors for sphincter injury ($p<0.001$) using chi-square tests. Women delivered by combined ventouse/forceps were 5 times more likely to have a severe tear than those delivered by SVD and 2.5 times more likely than those delivered by ventouse delivery. Shoulder dystocia, VBAC, rapid labour, epidural analgesia and occipito-posterior position were not found to be independent risk factors for sphincter injury using chi-square tests. There was no significant difference in birthweight between minor and major tears. A significant difference was found in the distributions of symptom score between groups ($p < 0.001$). Women with less severe tears had a median symptom score of 0 (range: 0 – 18) and women with more severe tears had a median symptom score of 2 (range: 0 – 16).
Endoanal ultrasound was used to assess sphincter damage. The extent of EAS or IAS damage was directly correlated to anal tone, with women sustaining combined defects being more likely to have reduced tone ($p<0.001$). Eighty percent of women with minor tears had an intact IAS and 4% had an IAS scar only. Women with minor tears were 2.4 times more likely to have an intact IAS compared to women with major tears. Eight percent of women with minor tears had an intact EAS and 73% had an EAS scar only. Women with minor tears were 2.3 times more likely to have an intact EAS. Women with major tears were significantly more likely to have endosonographic IAS defects or combined IAS and EAS defects ($p <0.001$). `

Conclusions

The perineal clinic provides a valuable resource for investigation and treatment of postpartum perineal injury. Primiparity and instrumental delivery were found to be independent risk factors for sphincter damage ($p<0.001$). The extent of EAS and IAS damage was directly related to severity of tear. Women who sustained a major tear had worse anal tone than those who had a minor tear ($p<0.001$) and women with combined defects were more likely to have reduced anal tone ($p<0.001$). It is important to identify the full magnitude of the injury at time of primary repair and identify and repair IAS defects as competently as possible.

Table 1. Crosstabulation of degree of tear and IAS/EAS.

IAS

Tear	Intact	≤1q	1-2q	Scar Only
3a	141	16	3	8
3b	108	23	6	5
3c	17	10	8	1
4	2	10	8	1

EAS

Tear	Intact	≤1q	1-2q	Scar Only
3a	19	23	1	125
3b	6	29	5	102
3c	1	9	5	21
4	1	10	2	8

Table 2. Crosstabulation of tone with IAS/EAS.

IAS

Tone	Intact	≤1q	1-2q	Scar Only
Normal	277	34	12	9
Reduced	66	38	27	8
Poor Technique	13	1	0	0
Increased Tone	11	0	0	0

EAS

Tone	Intact	≤1q	1-2q	Scar Only
Normal	55	46	7	224
Reduced	23	46	15	55
Poor Technique	1	1	0	12
Increased Tone	7	0	0	4

Table 3 **Correlation of tone and degree of sphincter damage**

Tone

IAS/EAS	Normal	Reduced	Poor Technique	Increased
Both intact	52	21	1	7
IAS intact, EAS damaged	225	45	12	4
EAS intact, IAS damaged	3	2	0	0
Both damaged	52	71	1	0

9 - *INTRAOPERATIVE EVALUATION OF THE DISTANCE BETWEEN MCCALL SUTURES AND URETERS. PRELIMINARY RESULTS.*

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INTRODUCTION AND AIM OF THE STUDY

More than 15% of the female population undergoes reconstructive surgery for symptomatic pelvic organ prolapse (POP) (1). POP surgery has an inherent risk of complications to the lower urinary tract (2). The risk of damage to the ureteres ranges from 0.1% to 1.8%, depending on the route of surgery (2). McCall culdoplasty (MCC) is a technique advocated for the treatment of mid compartment prolapse along with vaginal hysterectomy. During a MCC, however, there is up to 11% risk of ureteral injury (3). This can include: (a) a direct injury to a ureter due to non recognition of its course during the operation clinically manifestating itself as postoperative uroperitoneum, and (b) obstruction or kinking of a ureter due to sutures placed at or too close to the ureter, clinically manifestating itself immediately after the operation as obstruction of the upper urinary tract. Strategies like universal cystoscopy with or without intravenous administration of a urine dyer like indigo carmine have been proposed for the early recognition of these complications. The proximity of ureters to the uterosacral ligaments (USL) has been studied at some extent in anatomy specimens. Little data are available about the in vivo relationship of the ureters to the USL in women with POP that undergo MCC.
The aim of the study is to provide information about the distance between the McCall sutures and the ureters as observed intra-operatively during vaginal hysterectomy with McCall culdoplasty.

MATERIALS AND METHODS

Prospective observational study in a urogynecology unit of a tertiary academic centre from January 2018 to May 2018. Inclusion criteria: (a) Women with uterine prolapse stage III (POP-Q C >1) who were scheduled for laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy (LAVH and BSO), Exclusion criteria: (a) previous POP surgery, (b) history of malignancy or pelvic radiation, (c) known urinary tract congenital variations.. All patients had the following interventions: (a) preoperative cystoscopy and insertion of the ureteral illuminating catheters (Bush SLTM ureteral illuminating catheters, Cook Medical), (b) 4-port CO2 laparoscopy and measurement of the minimal distance between the ureter and the USL at each pelvic side (Measurement. #1), (c) laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy (BSO), (d) vaginal McCall culdoplasty using alower suture and ahigh suture to the USLs, (e) measurement of the minimal distance between the ureter and the low MCC sutures at each pelvic side (Measurement. #2), (f) measurement of the minimal distance between the ureter and high MCC sutures at each pelvic side (Measurement. #3), (g) fixation of the MCC sutures to the vaginal cuff, (h) measurements of the minimal distance between the ureter and the tightened high MCC sutures at each pelvic side with these sutures tied (Measurement. #4), (f) conclude native tissue vaginal repair. Each distance was measured from the centre of the ureter to the centre of the USL. All data were prospectively collected in Microsoft EXCEL.

RESULTS

Five patients were enrolled in the study (mean age: 66.7±5.9 years, mean height: 158.6±2.5 cm, mean weight: 74.6±2.5 kgr, mean parity: 2.6±0.5). Preoperative POP staging, was performed by POP-Q; measurements for Ba, C, D, and Bp were 6.2±0.4, 6.4±0.5, 3.2±0.4 and 1.8±0.8, respectively. Mean operating time was 132.0±13.0 min and there were no intra-operative or immediate postoperative complications. Mean Measuremet #1 was 3.3 cm right side (range: 2-5 cm,) and 2.8 cm left side (range: 1-5 cm,); mean Measuremet #2 was 2.0 cm right side (1-3 cm,) and 1.8 cm left side (0.5-3.5 cm); mean Measurement #3 was 2.1 cm right side (1.5-3 cm,) and 1.9 cm left side (0.5-3.5 cm); and, mean Measurement #4 was 2.2 cm right side (1.5-3 cm,) and 2.5 cm left side((0.5-5.0 cm,).

INTERPRETATION OF RESULTS

After the decline of use of vaginal mesh in many countries, native tissure POP surgery techniques are seeing new interest MCC is a widely used technique for the support of apical compartment during VH. The distance of the USL complex to the uterers, the distance of the MCC sutures to the ureters, and the final distance of the ureters to the vaginal cuff after the tying of the MCC sutures averagely lie within a safe distance exceeding 1.5 cm). However, in some cases the distance of the suturing appeared less than 1 cm. This may be due to to anatomic variations between the patients or variations in surgical technique. This may cause ureteral kinking and obstruction and. Therefore, universal cystoscopy appears necessary at the end of MCC.

CONCLUSIONS

In this pilot study, the pre-operative mean distance of the ureters to the USL was no shorter than 2.5 cm at each side. The post MCC mean distance of the MCC sutures to the ureter was 2.2 cm right side and 2.5 cm left but was as little as 0.5 cm in some cases. Although it appears safe on average to insert MCC sutures, individual anatomic variation may predispose to ureteral obstruction.

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10 - LONG TERM ANATOMICAL OUTCOMES AND 5-YEARS RECURRENCE-FREE SURVIVAL AFTER NATIVE-TISSUE PROLAPSE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

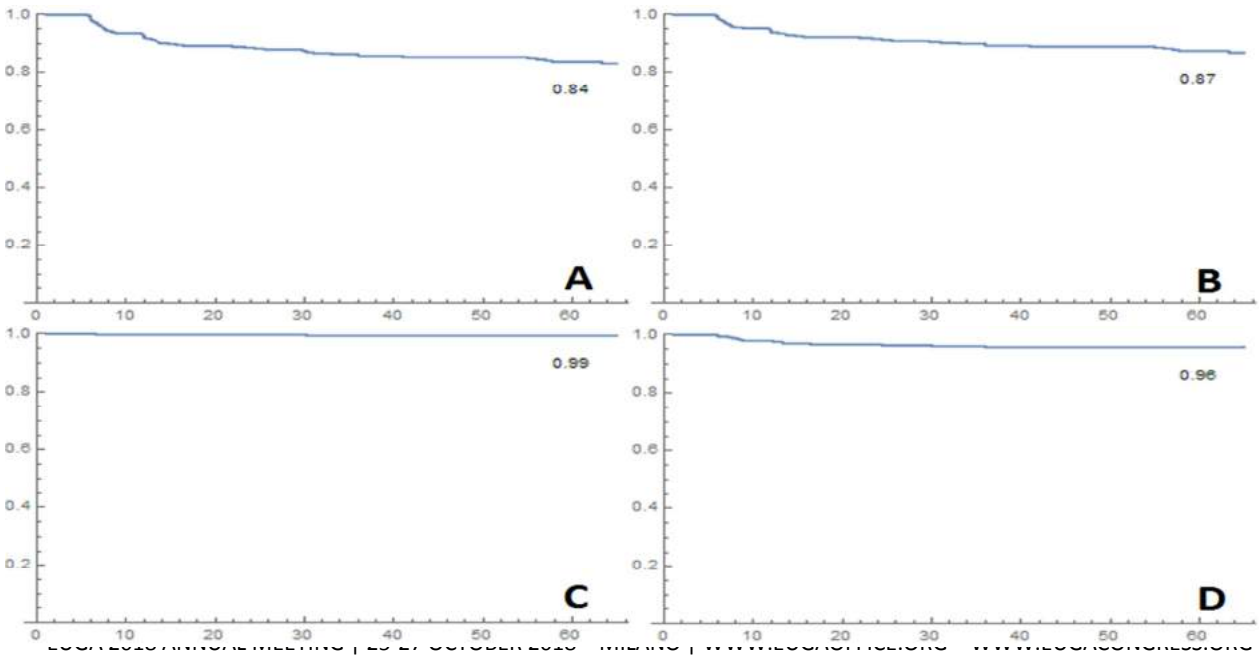
Pelvic organ prolapse (POP) is the descent of any vaginal compartment. It represents a worldwide public health issue affecting patients' quality of life. POP management includes both conservative and surgical treatment according to stage, symptoms and general health. Surgical treatment remains the mainstay of therapy. Currently, there is a renewed interest in transvaginal native-tissue techniques because of low cost and lack of complications related to mesh repairs. Uterosacral ligaments (USLs) are considered valid and effective suspending structures for native-tissue apical repair. Specifically, this apical suspension technique has been shown to be an effective and versatile mesh-free surgical technique for primary repair, POP recurrence and uterus-sparing surgery [1-3]. Still, there is lack of data about long-term follow-up in terms of objective and subjective outcomes. Since recurrence is the main pitfall of POP surgery, long-term studies are of the utmost importance to evaluate the efficacy of surgical procedures. Moreover, data on pattern of recurrence in terms of time from index surgery would be useful to schedule follow-up visit. This is even more relevant considering population aging, healthcare limited resources and the need to have a cost-effective outpatient organization.
The aim of this study was to evaluate in a population of patients long terms objective outcomes and to build recurrence-free survival curves after mesh-free USLs suspension.

MATERIALS AND METHODS

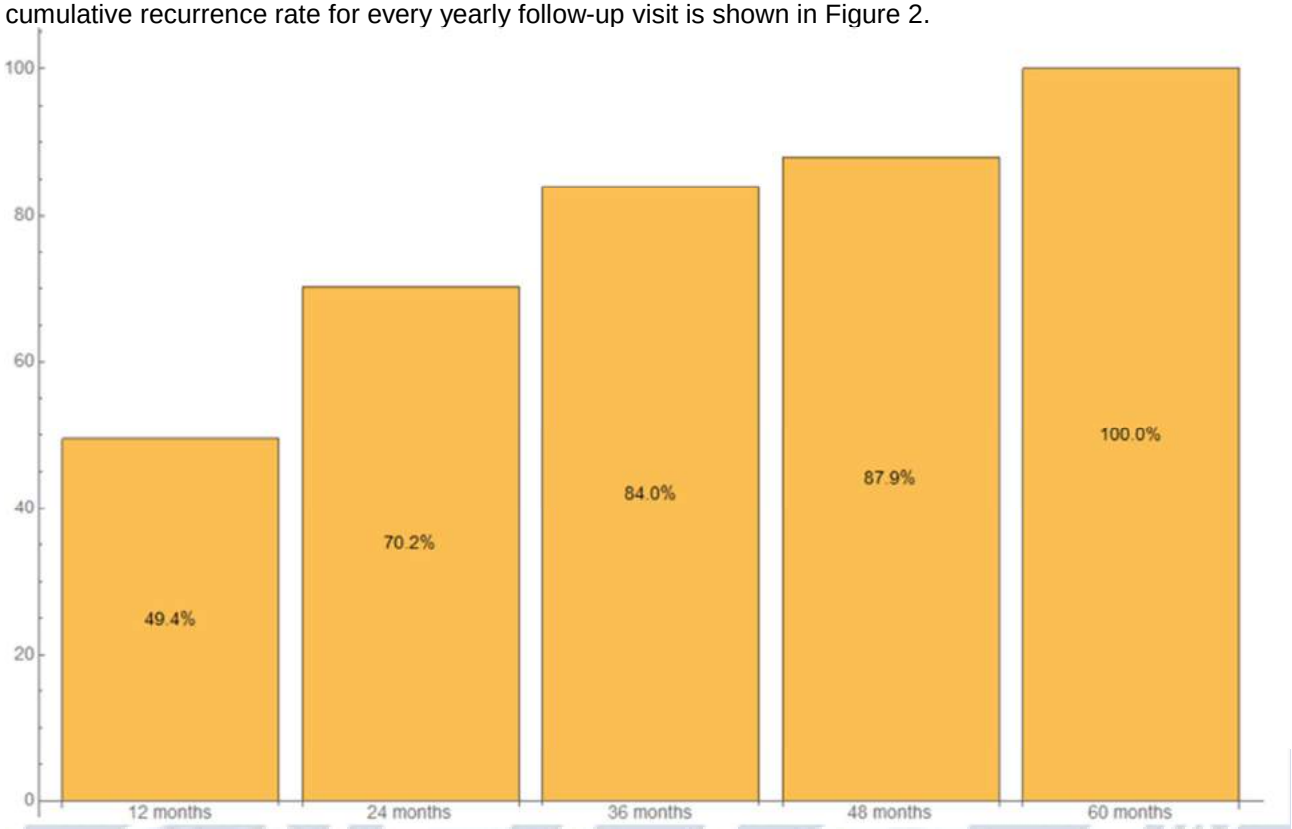
Data of patients who underwent vaginal hysterectomy followed by high USL suspension for pelvic organ prolapse at least five years ago were retrospectively analyzed. Patients living outside the administrative region or followed up outside the hospital from private gynecologists were not considered. Data were collected from hospital dedicated software for patients clinical monitoring. Follow-up visits schedule was yearly until the fifth year. Anatomical recurrence was defined as descent of any compartment stage II or greater according to the Pelvic Organ Prolapse Quantification system. Kaplan-Meier curves were used to evaluate recurrence free-survival for anatomical (total, anterior, central and posterior) and subjective recurrences.

RESULTS

355 patients were analyzed. Anatomical recurrence-free survival curves, as well as absolute 5-year recurrence-free rates, are shown in Figure 1 (A=total recurrence, B=anterior recurrence, C=central recurrence, D=posterior recurrence).



Median time from index surgery to recurrence was 12 months. The pattern of recurrence in terms of cumulative recurrence rate for every yearly follow-up visit is shown in Figure 2.



INTERPRETATION OF RESULTS

This study showed overall good anatomical outcomes of native-tissue POP repair even after a long follow-up (5 years). Moreover, Kaplan-Meier curves showed that most of the recurrences (70.2%) occur in the first 24 months from the index surgery. This finding suggests that a cost-effective strategy may be a scheduled follow-up until 24 months, with subsequent visits only in case of symptoms.

CONCLUSIONS

POP native-tissue repair with USLs suspension is effective even at long-term follow-up. Since most of the recurrences occur in the first 24 months, a scheduled follow-up visit organization in the long period might be unnecessary and not cost-effective.

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11 - COMPARISON OF NINE SURGICAL TREATMENTS FOR WOMEN WITH STRESS URINARY INCONTINENCE: A COST-EFFECTIVENESS AND VALUE OF INFORMATION ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) in women is a common and distressing condition which restricts quality of life and results in a large economic burden in terms of both the use of NHS resources and to women themselves (1-3). Recent concerns regarding supposed short and long-term severe adverse effects from commonly performed mesh procedures for SUI have caused anxiety in women and uncertainty for clinicians and decision-makers. The aim of this research was to evaluate the cost-effectiveness of nine different surgical interventions for treatment of SUI.

MATERIALS AND METHODS

A Markov microsimulation model was developed to estimate the relative cost-effectiveness of Retropubic mid-urethral sling (Retro-MUS) versus eight comparator surgical interventions. The eight comparators were :1) Anterior vaginal repair or anterior colporrhaphy (Anterior repair), 2) Bladder neck needle suspensions (Bladder neck needle), 3) Open abdominal retropubic colposuspension (Open-colpo), 4) Laparoscopic retropubic colposuspension (Lap-colpo), 5) Traditional sub urethral retropubic sling procedures (Trad-sling), 6) Transobturator mid-urethral sling (Transob-MUS), 7) Single incision sling procedures (Single incision sling) and 8) Peri-urethral injections bulking agents (Injectable agents). Costs were estimated from a NHS and personal social services perspective. The main clinical parameters in the model were the success rates (i.e. subjective cure) and incidence rates of complications after different interventions, which were estimated using a systematic review and network meta-analysis. In addition, expected value of perfect information (EVPI) analyses were conducted to quantify the main uncertainties facing decision-makers.

RESULTS

The base-case results suggest that Retro-MUS is the most cost-effective surgical intervention over a 10-year and lifetime time horizon. The probabilistic results show that Retro-MUS and traditional sling are the interventions with the highest probability of being cost-effective across all willingness to pay thresholds over a lifetime time horizon (Figure 1). The EVPI per woman per year is £11,180. The EVPI for the population for one year is estimated to be £167.7 million. The Value of information analysis results suggest that the largest value appears to be in removing uncertainty around the incidence rates of complications, the relative treatment effectiveness, and health utility values.

INTERPRETATION OF RESULTS

To our knowledge, this economic evaluation is the most comprehensive assessment of cost effectiveness of surgical interventions for the treatment of SUI. The results are uncertain but suggest that Retro-MUS is less costly and more effective than all other surgical interventions which is driven by the lower initial cost of Retro-MUS. This is primarily due to the fact that this procedure is conducted in a day-case setting, and there is lower chance of having repeat surgery due to its higher cure rate compared to all other surgical treatments (except for Traditional sling).

CONCLUSIONS

Although Retro-MUS appears, at this stage, to be a cost-effective intervention, research is needed on possible long-term complications of all surgical treatments to provide reassurance of safety, or earlier warning of unanticipated adverse effects. The value of information analysis supports the need, as a first step, for further research to improve our knowledge of the actual incidence of complications.

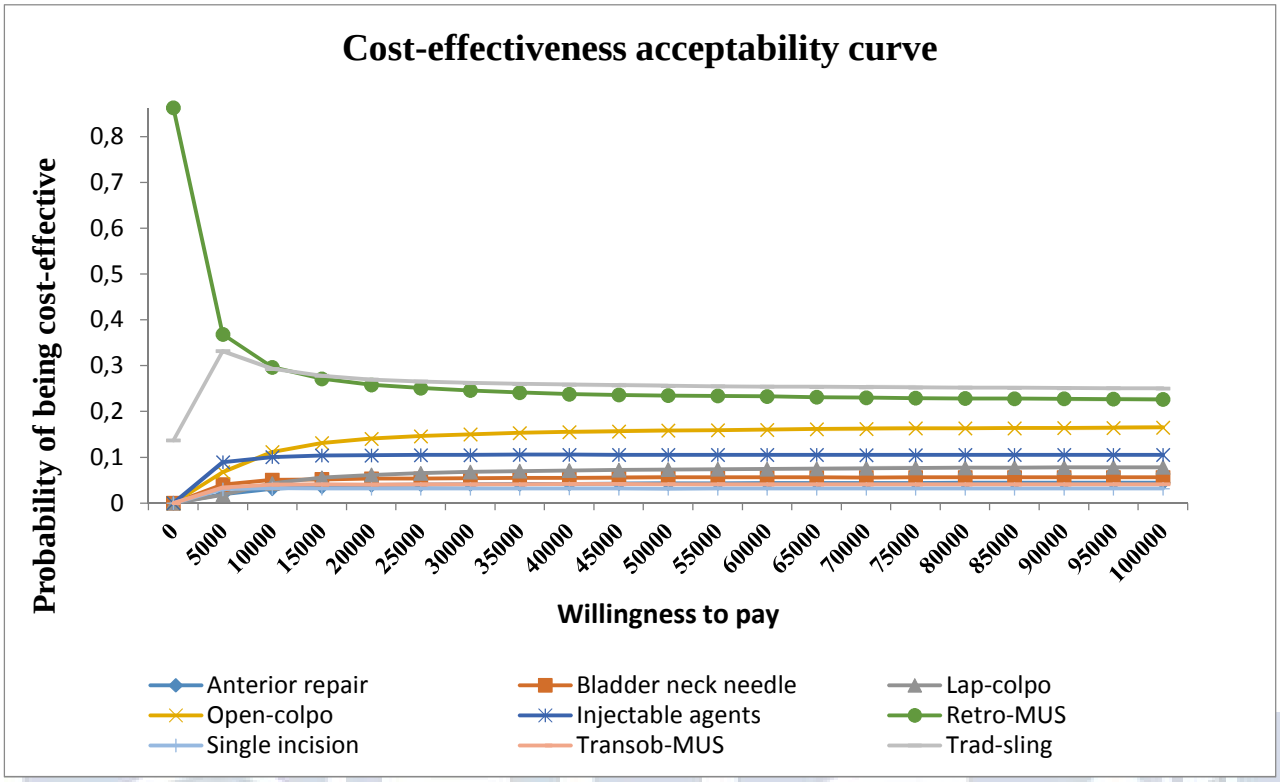

Figure 1 Cost-effectiveness acceptability curves for the nine surgical treatments: lifetime time horizon

Anterior repair: Anterior vaginal repair (anterior colporrhaphy); Bladder neck needle: Bladder neck needle suspensions; Lap-colpo: Laparoscopic retropubic colposuspension; Open-colpo: Open abdominal retropubic colposuspension; Trad-sling: Traditional suburethral retropubic sling procedures; MUS: Mid-urethral sling; Retro-MUS: Retropubic mid-urethral sling; Transob-MUS: Transobturator mid-urethral sling; Single incision: Single incision sling procedures ('mini-slings')

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12 - A COMPARISON OF INTRA- AND POSTOPERATIVE OUTCOMES BETWEEN LAPAROSCOPIC SACROHYSTEROPEXY VERSUS VAGINALSACROSPINOUS HYSTEROPEXY IN TREATMENT OF UTERINE PROLAPSE: A RANDOMIZED STUDY (LAVA-TRIAL)

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INTRODUCTION AND AIM OF THE STUDY

In recent years uterine preservation surgery in treatment of uterine prolapse has become more popular. Several techniques have been developed to suspend the uterus, using the vaginal, abdominal or laparoscopic approach[1]. To date, it is unclear which of these techniques leads to the best operative result and the highest patient satisfaction. The aim of the LAVA-trial is to determine whether laparoscopic sacrohysteropexy (LSH) is non-inferior to vaginal sacrospinous hysteropexy (VSH) in treatment of uterine descent. This abstract focuses on the intra- and postoperative outcomes.

MATERIALS AND METHODS

From August 2013 to September 2016 126 eligible women with uterine descent POP-Q stage ≥ 2 were randomized to LSH or VSH in an open label non-inferiority multicentre RCT (5 non-academic hospitals, one academic hospital). Women with previous prolapse surgery were excluded. VSH was performed unilaterally to the right sacrospinous ligament. Under direct vision 2 non-absorbable sutures were placed through the ligament and the posterior part of the cervix. In LSH, the cervix was suspended by attaching a bifurcated polypropylene mesh to the cervix and the promontory. In both groups, additional anterior and/or posterior vaginal wall repair or incontinence surgery were performed as indicated. During hospitalization and in the first 6 weeks after surgery patients were asked to keep a diary on postoperative pain (measured by Visual Analogue Score (VAS)), used pain medication and the validated RI-10 recovery questionnaire to measure postoperative recovery[2].

RESULTS

Of the 126 enrolled women, 62 were assigned to VSH and 64 to LSH. No differences in baseline characteristics were found (table 1). Intra- and postoperative details are presented in table 2.

Table 1. Baseline characteristics of women. Values are numbers (percentages) unless stated otherwise.

Characteristics	Laparoscopic sacrohysteropexy (N = 64)	Vaginal sacrospinous hysteropexy (N = 62)	p-value*
Mean (SD) age (years)	61 (9.8)	61 (10.7)	0.861
Mean (SD) body mass index (kg/m^2)	26.6 (3.4)	26.6 (2.9)	0.990
Comorbidity:			
Cardiovascular disease	29 (45.3)	19 (30.6)	0.090
Respiratory disease	4 (6.3)	4 (6.5)	1.000
Diabetes Mellitus	3 (4.7)	4 (6.5)	0.715
Current smoker (self-reported)	5 (7.8)	7 (11.9)	0.694
Median (range) number of vaginal deliveries	2 (1-10)	2 (1-5)	0.867
Median (range) number of caesarean deliveries	0 (0-1)	0 (0-1)	0.255

Percentages were calculated using non-missing data.
* p value using Chi-square test, Fisher exact, Mann-Whitney or independent t-test as appropriate

Operating time was significant shorter in the VSH group. Estimated blood loss was significant lower in the LSH group. Anterior vaginal wall repair was more frequently performed during VSH as compared to LSH.
No differences were found in complication rate during surgery, neither in the postoperative period. Conversion to VSH due to technical difficulties was the most frequent intraoperative complication in the LSH group. Other reported complications were a suspicion of perforating the stomach with a Veress-needle during introduction (LSH), corneal abrasion during surgery (VSH) and impossibility to attach the mesh to the promontory (LSH). In this patient, the mesh was attached to the anterior abdominal wall. One day later, the mesh was removed and a Manchester Fothergill procedure was performed. Urinary retention was found twice as frequent after VSH, and urinary tract infections were also more common. No difference in postoperative pain (measured with VAS) was observed in the first 6 weeks after surgery. At day 4, 5 and 6

postoperative, less women used pain medication after VSH compared to LSH (resp: n=46 vs n=53 at day 4; n=41 vs n-51 at day 5; n=38 vs n=45 at day 6). No other differences were found in postoperative use of pain medication. Recovery was comparable at 1 and 2 weeks after surgery as measured by recovery index-10 scores. However, postoperative recovery was better at week 4 and 6 after VSH compared to LSH (table 3).

Table 2. Intraoperative and postoperative details. Values are numbers (percentages) unless stated otherwise.

Characteristics	Laparoscopic sacrohysteropexy (N = 64)	Vaginal sacrospinous hysteropexy (N = 62)	p-value*
Intraoperative period			
Mean (SD) operating time (min)	163 (43)	62 (18)	<0.001
Mean (SD) estimated blood loss (mL)	66 (70)	106 (68)	<0.001
Concomitant surgery:			
Anti-incontinence	2 (3.1)	1 (1.6)	1.000
Anterior vaginal wall repair	55 (85.9)	61 (98.4)	0.010
Posterior vaginal wall repair	13 (20.3)	14 (22.6)	0.756
Surgeon:			
Gynecologist	62 (96.9)	51 (82.3)	0.008
Fellow/resident	2 (3.1)	11 (17.7)	0.008
Complications:			
Conversion	5 (7.8)	0 (0)	0.058
Bleeding (> 200 mL)	1 (1.6)	1 (1.6)	1.000
Perforation vagina wall	2 (3.1)	0 (0)	0.496
Other	3 (4.7)	0 (0)	0.244
Postoperative period			
Mean (SD) length of hospital admission (days)	3.2 (1.4)	2.8 (1.1)	0.176
Complications during hospital admission:			
Infection	2 (3.1)	5 (8.1)	0.269
Urinary tract infection	1 (1.6)	4 (6.5)	0.204
Other	1 (1.6)	1 (1.6)	1.000
Second surgery	1 (1.6)	0 (0)	1.000
Bleeding	0 (0)	1 (1.7)	0.492
Urinary retention	5 (8.1)	11 (18.3)	0.093

Percentages were calculated using non-missing data. All patients were analyzed as allocated (intention to treat).
* p value using Chi-square test, Fisher exact or Mann-Whitney as appropriate

Table 3. Postoperative recovery. Values are means (standard deviations)

	Laparoscopic sacrohysteropexy		Vaginal sacrospinous hysteropexy		
Recovery index-10†:	**No women**	**Mean (SD) score**	**No women**	**Mean (SD) score**	**p-value***
Week 1	57	32 (7)	59	33 (7)	0.726
Week 2	55	34 (7)	59	36 (7)	0.320
Week 4	57	36 (7)	57	38 (7)	0.034
Week 6	55	37 (7)	56	40 (6)	0.026

Percentages were calculated using non-missing data. All patients were analyzed as allocated (intention to treat).
†10 item questionnaire measuring postoperative recovery on 5 point Likert scale. Summary scale score ranges from 10 to 50, where 50 indicates perfect recovery.
* p value using independent samples t-test

INTERPRETATION OF RESULTS

VSH is associated with a shorter operating time but higher blood loss. No significant differences in intra- and postoperative complications were found between both procedures. However, urinary retention and urinary tract infection were more common after VSH. Though recovery is initially comparable, women of the VSH group recovered better from week 4 postoperatively.

CONCLUSIONS

VSH and LSH are safe techniques for uterus suspension. Intra- and postoperative complication rates are comparable.

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13 - HYSTERECTOMY WAS ASSOCIATED WITH LOW URINARY TRACT SYMPTOMS: A NATIONWIDE, POPULATION-BASED STUDY

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INTRODUCTION AND AIM OF THE STUDY

Hysterectomy is one of the most common gynaecologic surgeries performed for benign disease. Hysterectomy has been linked to lower urinary tract dysfunction and lower urinary tract symptoms (LUTS) in some studies. Most of the studies have shown an increased risk for both urge urinary incontinence (UUI) and stress urinary incontinence (SUI) after hysterectomy.[1] Development of LUTS could be explained by damage occurring during surgery to the innervation and supportive tissues of the pelvis. However, the effect of hysterectomy on LUTS has not been well studied, and the results are contradictory. We investigated the incidence of LUTS following hysterectomy in Taiwan using a single payer, nationwide, population based health insurance database. The aim of the study is to examine the effect of hysterectomy on vesicourethral functions.

MATERIALS AND METHODS

This study identified 8514 patients who underwent hysterectomy between January 1, 2000, and December 31, 2012, from the Taiwan National Health Insurance (NHI) Research Database. A comparison cohort was constructed comprising 34056 age-matched patients who had not undergone hysterectomy. The primary outcome was defined as developing LUTS during follow-up period. The cases with LUTS were defined as any patients receiving diagnosis of LUTS in at least 1 inpatient service or 2 outpatient visits within the study period. All subjects were followed from the index date until an occurrence of LUTS, death, withdrew from LHID, or December 31, 2013 (the last date in the database). Individual urinary symptoms were also analyzed as individual outcome, including dysuria, urinary retention, urinary incontinence, and urinary frequency/urgency. We further categorized hysterectomy cohort in to four groups, including SAH, TAH, VH, and LAVH groups for subgroup analysis. Patients were excluded if they diagnosed LUTS before or at the time of hysterectomy.

RESULTS

The mean age of the study population was 47.1 years old, and the median follow-up time was 7.7 years. There were 939 patients developing LUTS in hysterectomy cohort (14.9/1000 person-years), and 2240 patients in non-hysterectomy cohort (8.5/1000 person-years). The prevalence of baseline comorbidities was higher in hysterectomy cohort than in non-hysterectomy cohort, including hypertension, diabetes mellitus, COPD, chronic kidney disease, depression, urinary tract infection, and menopause (Table 1). The cumulative incidence curves revealed that hysterectomy cohort had a significantly higher cumulative incidence of developing LUTS (log-rank test, $p < 0.001$). Ever receiving hysterectomy was associated with increased risks of developing LUTS in both univariate (crude HR = 1.75, 95% CI = 1.62–1.88, $p < 0.001$) and multivariate (adjusted HR [aHR] = 1.57, 95% CI = 1.46–1.70, $p < 0.001$) Cox proportional hazards regression models (Table 2). The effect of different hysterectomy techniques on risks of LUTS were further analyzed. Compared with non-hysterectomy patients, the highest risks of developing LUTS were observed in patients with VH (aHR = 1.89, 95% CI = 1.57–2.28, $p <0.001$), and then followed by those with LAVH and TAH.

INTERPRETATION OF RESULTS

In this large, population-based cohort study, we found a strong association between hysterectomy and the risk of developing LUTS. The study population encompassed mainly middle-age women and more than 60% of all hysterectomies were performed at age 40 to 49. It may be driven by highest prevalence of uterine leiomyoma, the most common indication for hysterectomy, among this age group. Our result indicates that hysterectomized women were more likely to develop dysuria, urinary retention, urinary incontinence, and urinary frequency or urgency. Among all LUTSs, the overall incidence of urinary incontinence was more than twice as high in women having had a hysterectomy compared with non-hysterectomy group after adjusting comorbidities. By performing hysterectomy, it is evident that the hypogastric nerves and the proximal and distal part of the inferior hypogastric plexus and pudendal nerves are easily damaged during the procedure, resulting in disruption of urethral sphincter mechanism.[2] LUTS is thought to be caused by neural denervation of the bladder and urethra.

Among different procedures of hysterectomy, there was a significant higher incidence of LUTS in hysterectomy through the vaginal routes in our studies. During VH, the peritoneum overlying the bladder is detached allowing access to the uterovesical pouch. The vesical plexus lies over the lower anterior part of

the bladder and communicates with the uterine plexus. Damage of innervation and blood supply may occur during anterior colpotomy.[3] As a result, bladder dysfunction in vaginal approach was more common than transabdominal routes.

CONCLUSIONS

Hysterectomy increases the risks for LUTS in Taiwanese women. Various hysterectomy techniques, particularly VH and LAVH, may increase the risk of subsequent LUTS. With high prevalence of hysterectomy, our findings have important implications on public-health. Women undergoing hysterectomy for benign indications should be counselled regarding the associated risk of LUTS.

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Table 1. Baseline characteristics of patients with and without hysterectomy

	Hysterectomy		
	Yes (n = 8,514)	No (n = 34,056)	*P* value
Age (years)			1.000
< 40	1,071 (12.6%)	4,284 (12.6%)	
40–49	5,216 (61.3%)	20,864 (61.3%)	
50–59	1,418 (16.7%)	5,672 (16.7%)	
≥ 60	809 (9.5%)	3,236 (9.5%)	
Income level (NTD)			<0.001
Financially dependent	1,527 (17.9%)	6,605 (19.4%)	
1–19 999	4,852 (57.0%)	18,434 (54.1%)	
20 000–39 999	1,490 (17.5%)	6,338 (18.6%)	
≥40 000	645 (7.6%)	2,679 (7.9%)	
Urbanization level			<0.001
1 (Most urbanized)	2,815 (33.1%)	12,076 (35.5%)	
2	2,521 (29.6%)	10,013 (29.4%)	
3	1,480 (17.4%)	5,854 (17.2%)	
4	1,055 (12.4%)	3,837 (11.3%)	
5 (Least urbanized)	643 (7.6%)	2,276 (6.7%)	
Comorbidities			
Hypertension	1,218 (14.3%)	3,221 (9.5%)	<0.001
Diabetes mellitus	460 (5.4%)	1,438 (4.2%)	<0.001
COPD	196 (2.3%)	662 (1.9%)	0.035
Chronic kidney disease	48 (0.6%)	135 (0.4%)	0.035
Depression	235 (2.8%)	564 (1.7%)	<0.001
Urinary tract infection	809 (9.5%)	1,502 (4.4%)	<0.001
Menopause	728 (8.6%)	1,555 (4.6%)	<0.001

Categorical data were expressed as number (%).

Abbreviations: COPD, chronic obstructive pulmonary disease; NTD, New Taiwan dollars.

Table 2. Risk of developing lower urinary tract symptoms for patients with and without hysterectomy

	Events	Incidence rate*	Univariate model		Multivariate model†	
			crude HR (95% CI)	p value	adjusted HR (95% CI)	p value
Any symptoms§						
Non-hysterectomy	2240	8.5	1 (ref.)		1 (ref.)	
Hysterectomy	939	14.9	1.75 (1.62–1.88)	<0.001	1.57 (1.46–1.70)	<0.001
Dysuria						
Non-hysterectomy	322	1.2	1 (ref.)		1 (ref.)	
Hysterectomy	129	2.0	1.67 (1.36–2.05)	<0.001	1.50 (1.22–1.85)	<0.001
Urinary retention						
Non-hysterectomy	169	0.6	1 (ref.)		1 (ref.)	
Hysterectomy	76	1.2	1.87 (1.43–2.46)	<0.001	1.66 (1.26–2.18)	<0.001
Urinary incontinence						
Non-hysterectomy	464	1.8	1 (ref.)		1 (ref.)	
Hysterectomy	252	4.0	2.26 (1.94–2.64)	<0.001	2.03 (1.74–2.37)	<0.001
Urinary frequency or urgency						
Non-hysterectomy	1454	5.5	1 (ref.)		1 (ref.)	
Hysterectomy	546	8.7	1.56 (1.42–1.73)	<0.001	1.41 (1.28–1.56)	<0.001

There were 8514 and 34056 patients in hysterectomy and non-hysterectomy cohort, respectively, after exact matching for age and index year.

*Per 1000 person-years.

†Multivariate Cox proportional hazard regression model, adjusting for all baseline characteristics listed in Table 1.

§Any symptoms were defined as developing any of the following: dysuria, urinary retention, incontinence, frequency or urgency.

Table 3. Risk of developing lower urinary tract symptoms among patients receiving different procedures of hysterectomy

Procedures	Events[§]	Incidence rate*	Univariate model		Multivariate model[†]	
			crude HR[‡] (95% CI)	p value	adjusted HR[‡] (95% CI)	p value
Non-hysterectomy (n=34,056)	2240	8.5	1 (ref.)		1 (ref.)	
Subtotal abdominal hysterectomy (n=475)	35	11.9	1.36 (0.98–1.90)	0.069	1.36 (0.97–1.90)	0.073
Total abdominal hysterectomy (n=3,857)	372	12.7	1.49 (1.33–1.66)	<0.001	1.38 (1.23–1.54)	<0.001
Laparoscopy-assisted vaginal hysterectomy (n=3,478)	405	15.9	1.86 (1.68–2.07)	<0.001	1.74 (1.56–1.94)	<0.001
Vaginal hysterectomy (n=704)	127	24.2	2.84 (2.37–3.39)	<0.001	1.89 (1.57–2.28)	<0.001

[§]Events were defined as developing any symptoms as the following: dysuria, urinary retention, incontinence, frequency or urgency.

*Per 1000 person-years.

†Multivariate Cox proportional hazard regression model, adjusting for all baseline characteristics listed in Table 1.

‡The HR of each procedures of hysterectomy was calculated using non-hysterectomy patients as reference.

14 - THE DURATION OF EFFECT AND SATISFACTION RATE OF FUNCTIONAL MAGNETIC STIMULATION IN WOMEN WITH REFRACTORY NEUROPATHIC OVERACTIVE BLADDER SYNDROME

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INTRODUCTION AND AIM OF THE STUDY

In 1998, the United States Food and Drug Administration approved functional magnetic stimulation (FMS) as a conservative treatment method for overactive bladder (OAB) syndrome. Different studies and meta-analyses have suggested that FMS improves OAB symptoms in the short- and medium-term, while others could not confirm its efficacy [1-3]. The aim of our study was to focus on the effect of the FMS on OAB symptoms in women with refractory neuropathic OAB. Neuropathic OAB is usually a consequence of nerve entrapment by disc protrusion, spinal stenosis or neural foramina narrowing. In our experience, these patients often do not respond to the first- and second-line conservative therapy and are especially difficult to treat.

MATERIALS AND METHODS

This was a small prospective cohort study. Women with OAB and coexisting chronic degenerative lumbar spine disease in whom first- and second-line conservative therapy did not relieve the symptoms were included. Contraindication for participation in the study were pregnancy, active urinary tract infection (UTI), and implanted pacemaker or cardioverter defibrillator. During FMS, women were able to continue with their regular pharmacological therapy for OAB. Institutional review board ethical approval was obtained.

Before FMS, we performed a complete urogynaecological work-up in each patient. Patients evaluated the bothersomeness of their OAB symptoms on a scale from zero (not bothersome at all) to 100 (very bothersome) and filled out the following questionnaires: Incontinence Impact Questionnaire 7 (IIQ-7), Urogenital Distress Inventory 6 (UDI-6), and Patient Perception of Intensity of Urgency Scale (PPIUS). Urine analysis and urinary culture were also performed to exclude an underlying UTI.

FMS was performed using a “magnetic chair”, which stimulates both lumbar and pelvic area simultaneously. Each patient received 16 FMS courses in 2 months (2-3 courses per week). We performed a follow-up of these patients up to three months (FU-3) and twelve months (FU-12) after the treatment. At the follow-up, patients evaluated their satisfaction with FMS, the bothersomeness of their symptoms and again completed the questionnaires. Moreover, they evaluated the duration of effect of FMS on their OAB symptoms. Results were analysed using SPSS Statistics programme. Descriptive statistics were used to describe basic patients’ characteristics. Non-parametric paired samples test was used to compare results before and after FMS. Statistical significance was set at $p<0.05$.

RESULTS

Thirteen women were included in the study; one was excluded because she developed an UTI right after the beginning of the FMS. Overall, 12 patients were included in the analysis. Their average age at the beginning of FMS was 63±15 years (range 23-75 years). Ten patients (83.3%) were taking an anticholinergic or beta-agonist before and during FMS. All patients attended FU-3 and eleven patients were available for the FU-12.

When comparing results before FMS and FU-3, there was a significant improvement in daytime frequency ($p=0.007$), nocturia ($p=0.005$), bothersomeness of OAB symptoms, and UDI-6 ($p=0.004$), IIQ-7 ($p=0.004$) and PPIUS scores ($p=0.016$). At FU-12, 10 out of 11 patients (90.9%) stated that their OAB symptoms have recurred. However, the difference in patients’ outcomes between FU-3 and FU-12 was significant for daytime frequency only ($p=0.034$) (table 1). The average duration of FMS effect was 5 months (range 2-6 months).

Table I: Comparison of patients' outcomes before FMS and at the three-month and twelve-month follow-up

Parameter	Before FMS	FU-3	FU-12
Frequency [No±SD, range]	8.2±3.4 (3.5-15)	5.9±3.1 (1.5-11)	7.2±4.2 (2.5-16)
Nocturia [No±SD, range]	5.2±5.5 (2-20)	2.7±2.7 (0-9)	3±2.2 (1-8)
Bothersomeness of OAB symptoms [value±SD, range]	68.7±15.6 (44-90)	52.7±26.4 (5-80)	57.8±27.4 (8-100)
PPIUS [value±SD, range]	3.2±0.7 (2-4)	2.5±0.9 (1-3.5)	2.9±0.8 (2-4)
UDI-6 [value±SD, range]	75.4±24.7 (25-100)	34±19.5 (0-62.5)	50±19.4 (16.6-79.1)
IIQ-7 [value±SD, range]	65.5±33.5 (0-95.1)	15.9±16.9 (0-52.4)	37.6±34.9 (0-95.1)

At FU-3, only two women (16.7%) stated their condition did not improve after the stimulation; one of them was found to develop an UTI immediately after the FMS and was treated appropriately. Five (41.7%) women were extremely satisfied, one (8.3%) very satisfied, and four (33.3%) satisfied with the results of FMS. At FU-12, again only two patients (18.2%) stated their condition did not improve after FMS, two (18.2%) were extremely satisfied, one (9.1%) very satisfied, six (54.5%) satisfied, and two (18.2%) only partially satisfied with the results. All patients would recommend FMS to their friends. Out of ten symptomatic patients, nine would decide for another course of FMS treatment.

INTERPRETATION OF RESULTS

According to results of our small prospective study, FMS improves OAB symptoms in women with refractory neuropathic OAB. FMS significantly decreased daytime frequency, nocturia, bothersomeness of OAB symptoms, PPIUS, UDI-6, and IIQ-7 scores. However, the symptoms tended to recur after approximately 5 months post FMS, although there were no statistically significant differences in patients' outcomes between the three-month and the twelve-month follow-up. The therapy was well accepted by the patients, although some of them experienced some transient lower back or back thigh pain during stimulation. All patients would recommend FMS to their friends and almost all would decide for another course of FMS treatment. In the future, it would be reasonable to assess the effect of repetitive FMS on OAB symptoms in a larger number of patients and to determine whether FMS could serve as an adjunct to pharmacological therapy in patients with refractory OAB before referring them to more invasive treatments such as intra-vesical injection of botulinum toxin or sacral nerve stimulation.

CONCLUSIONS

In patients with refractory neuropathic OAB, FMS offers significant short-term improvement that lasts approximately 2-6 months.

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15 - PLATELET RICH PLASMA AS ADJUVANT THERAPY OF RECURRENT VESICO-VAGINAL FISTULA - PRELIMINARY REPORT.

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INTRODUCTION AND AIM OF THE STUDY

Vesicovaginal Fistula (VVF) is the non-physiological communication between bladder and vagina, resulting in uncontrollable urine leakage into the vagina. The most common cause of VVF in developed countries are gynaecological and obstetric procedures. It's estimated that 85% all of VVF appear to be a complication of transabdominal hysterectomy (1,1/800 procedures) or transvaginal hysterectomy (0,2/1000 procedures), and 11% develop after caesarean section. It can also be associated with uterine cavity curettage, cone biopsy, stress urinary incontinence procedures or laparoscopic hysterectomy. The other, less common, factors are pelvic tumors, pelvic injuries, foreign intrauterine or intravaginal bodies and abscesses. The VVF may be a late consequence of oncological radiotherapy [1]. VVF is a devastating condition with serious negative effect on quality of patients life. Treatment is based on surgical procedures that can be performed transvaginally, transabdominally or laparoscopically. According to the WHO successful closure rate for a first repair is around 85% [2]. However, it is still a challenging surgical procedure, recurrence remains a highly distressing complication for patients and surgeons.

Platelet Rich Plasma (PRP) is an autologous concentrate of thrombocytes in small volume of plasma, which contains five times higher concentration of platelets than physiological, and higher concentration of growth factors localized in thrombocytes, like Platelet-Derived Growth Factor (PDGF), Transforming Growth Factor ß (TGF ß), Vascular Endothelial Growth Factor (VEGF) and Endothelial Growth Factor (EGF). In addition, PRP contains a high level of adhesion proteins like fibrin, fibronectin, vitronectin, that are the components of the extracellular matrix and play important role in wound healing. Autologous character of PRP eliminates the risk of viral infections like viral hepatitis or HIV transmission [3].

The aim of our study is to evaluate the efficacy of PRP use as a supportive agent in the treatment of recurrent VVF after two previous unsuccessful surgical attempts.

MATERIALS AND METHODS

Between January 2018 and May 2018 6 patients with recurrent VVF were injected with PRP in tertiary gynecological clinic and 4 of them underwent following surgical Latzko procedure. All patients signed informed consent and agreed to the use of this data for scientific purposes. The Local Ethics Committee approved the study concept. The demographic patients' data are given in Table 1. Whole blood (180 ml) was collected from the patients into sodium citrate tubes (ratio 9:1). The tubes were centrifuged with the Arthrex Angel System® kit (Arthrex Inc., Naples, USA), resulting in 4-6ml PRP volume (Table 1).

Table 1. Demographic patients' data.

n	Age	BMI	Parity	Primary gynecological procedure	Operations before PRP injection	PRP volume injected (ml)
1	34	23,44	1	TAH/BSO	2	6
2	46	25,51	1	TLH/BSO	2	4
3	74	29,74	4	TVH	2	6
4	41	32,81	5	TAH/BSO	2	6

PRP Injection

With the patient in the lithotomy position, the exact location of fistula was determined transvaginally. The edges of the fistula were injected with PRP- in 4 to 5 points. Injections were made without local analgesia in order to avoid tissue pH change.

After the injection, patients were discharged home with ciprofloxacin 500 mg bid for five days. Following surgical procedure for VVF closure was scheduled 8 weeks after the PRP injection allowing proper neovascularization in surrounding tissues.

VVF repair procedure

The Latzko procedure was performed with the patient in the lithotomy position in general anesthesia. Cystoscopy was performed and bladder orifice of the VVF was localized and single J catheters were inserted into the ureters in order to decrease the amount of urine flowing into the bladder. Fistula was visualized from the vagina and Foley catheter 6 or 8 Fr, depending on fistula size, was placed into the bladder via VVF tract and balloon was inflated with 0.9% saline solution. Vaginal wall was then dissected and separated from the VVF tract for approximately 1 cm around the fistula. The scar tissue of the fistulous tract was excised in order to refresh the edges for better healing. Then imbricating, 3 layer, closure of the bladder, vesicovaginal fascia and vagina was performed with 3.0 absorbable sutures. After the first layer tightness of the closure was checked with inflating 150 ml methylene blue dye solution into the bladder. If watertight closure was achieved, next two layers of sutures were applied to secure complete closure. Foley and single J catheters were left for 12 days after surgery with antibiotic prophylaxis. On few postoperative days patients were kept on complete bed rest. Patients were checked up with inflating 150 ml methylene blue dye solution into the bladder before discharge and all catheters were removed. First follow-up visit was scheduled 4 weeks after discharge.

RESULTS

At follow-up visit 4-6 weeks after procedure all operated patients (n=4) remained dry without any symptoms of VVF. Moreover, no adverse events or adverse reactions were observed. In gynecological examination vaginal mucosa was healed without any contraction or scar tissue impairing vaginal wall mobility.

INTERPRETATION OF RESULTS

Platelet rich plasma is already used in wide range of indication, in orthopedics or aesthetic medicine, with beneficial effects in all types of tendinopathy (tendinopathy of the Achilles tendon, tendinopathy of the lateral humerus- the so-called tennis elbow), degenerative joint diseases, or healing of chronic wounds like diabetic foot. Our results of first few cases are quite encouraging, especially in complicated cases of recurrent VVF, where scar tissue after previous attempts might be overgrown and have negative influence on wound healing, especially in VVF case where urine is present from one side and vaginal flora from the other. Acceleration of tissue ability to heal because of growth factors and adhesion proteins concentration in PRP might be crucial for fast and successful VVF closure.

CONCLUSIONS

The use of PRP in urogynecology could result in significant improvement of VVF surgical treatment and study on larger group of patients is ongoing.

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16 - SURGICAL MANAGEMENT OF PELVIC ORGAN PROLAPSE IN WOMEN: VAGINAL NATIVE TISSUE REPAIR VERSUS LAPAROSCOPIC LATERAL SUSPENSION WITH MESH. A 1-YEAR FOLLOW-UP.

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a condition that can affect up to 50% of women and as a result, one in nine women will undergo at least one surgery for POP in her lifetime. The aim of this study is to evaluate the efficacy of traditional native tissue repair compared to prosthetic laparoscopic uterine-sparing repair in a population of women affected by POP estimating anatomical and clinical outcomes.

MATERIALS AND METHODS

We enrolled n.100 patients affected by pelvic organ prolapse, who surgery for POP from May 2016 to April 2018 in two different Hospital Unit.

N. 52 patients underwent vaginal hysterectomy with suspension of the vaginal vault to the middle third of the uterosacral ligaments and the cardinal ligaments together, associated with anterior colporrhaphy and an eventual perineorrhaphy. N.48 women instead, underwent lateral suspension of the uterus or the vaginal vault (LLS) using a polypropylene mesh (n.23 patients) or a titanium-coated polypropylene device (n.25 subjects), attached to the upper third of the anterior fornix and to the cervix, and then laterally by a tension-free fixation to abdominal wall above the iliac crests.

The choice of surgery depended on age, stage of POP, desire to preserve uterus, the presence of a predominant compartment descent.

The preoperative evaluation consisted of an urogynecological interview, a clinical exam and a questionnaire about quality of life. The International Consultation on Incontinence Questionnaire Short form (ICIQ-SF) was used to subjectively quantify the patient perception of the severity of the stress and urge urinary incontinence and the Kings Health Questionnaire (KHQ) to evaluate the impact of prolapse on quality of life (QoL). Vaginal prolapse was staged according to the Pelvic Organ Prolapse Quantification System (POP-Q) and the Half Way System with the patient in lithotomy position. They were performed the day before surgery and 1, 3, 6, 12 months after surgery all times by the same surgeons.

Objective cure for prolapse was defined when the vaginal defects were stage 0-1, evaluated by POP-Q classification. Recurrence of prolapse was defined as a prolapse of stage 2 or higher.

RESULTS

The study population was composed by N.100 patients affected by POP. All of them completed at least 1 month follow-up, no patients were lost.

In native tissue repair group, n.35 women had a 3 month follow-up, n.31 a 6 month follow-up, n.14 a 12 month follow-up. In the prosthetic group n.44 women had a 3 month follow-up, n.42 a 6 month follow-up, n.24 had a 12 month follow-up.

Mean age was 64 years in the first group and 62 years in the second group (p=0.1). Mean Body Mass Index (BMI) was 26.8 in the first and 24 in the second sample. N.7 patients were previously hysterectomized in the prosthetic group.

According to the POP-Q system, among the native-tissue repair group, in the pre-operative evaluation we classified n.12 of patients at the stage 2, n.37 at the stage 3 and n.3 at the stage 4. All the patients underwent a colpohysterectomy associated with anterior colporrhaphy. This kind of surgery was performed alone in 58% of the cases, while in 12% of women it was completed with an addictional gynecologic surgery (vaginal or laparoscopic bilateral ovarosalpingectomy) or an uro-gynecologic intervention (colpoperineoplasty in 27% and Stapled Transanal Resection of the Rectum in 2% of the women). After 12 months no patient showed a POP-Q stage 3 or 4, but 71.4 % was classified at the stage 0, 21.4 % at the stage 1, and 7.1% at the stage 2, with a median POP-Q value of the sample of 0. No severe intraoperative complications occurred. Early postoperative complications included only a case of pelvic ematoma with anemia, which required a surgical drainage and a blood transfusion.

In the prosthetic group n n. 16 patients at the stage 2, n.23 at the stage 3 and n.4 at the stage 4 were observed. Median POP-Q value was 3. At that moment, the most bothering symptom reported was bulging (50%).

N.23 people underwent a laparoscopic lateral suspension using a polypropylene mesh, whereas in n.25 women a titanium-coated polypropylene device was placed, which was improved (12%) after 12 months.

At 1-year follow-up no patient showed a POP-Q stage 4, but n.7 was classified at the stage 0, n.10 at the stage 1, n.6 at the stage 2 and n.1 at the stage 3, with a median POP-Q value of the total population of 1. At 1-year evaluation (12%) subjective cure (absence of bulge symptoms) occurred in 87% of the women.
Early postoperative complications included only a case of urinary tract infection treated with intravenous antibiotics. In n.4 cases a mesh complication was observed: n.3 patients needed a mesh re-fixation to the vagina after 6 months and 1 patient underwent a surgical removal of an abdominal wall stitch granuloma. No mesh erosions or extrusions were observed.

INTERPRETATION OF RESULTS

Using proposed criteria we observed that 92,8% achieved surgical success 1-year after the native tissue repair while 90% of people achieved it 12 months after the LLS (p=0.8).
Subjective cure (absence of bulge symptoms) occurred in 94.3% of women in the native tissue group and in 87% of the patients in the prosthetic group (p=0.1).
Considering the QoL evaluated with the KHQ, an enhancement in the total score compared to the pre-surgical assessment, was seen at each subsequent visit ($p<0.001$, Tukey test) after 1 year in both groups.

CONCLUSIONS

In our experience traditional vaginal native tissue repair and LLS technique are effective, safe and improves POP-related symptoms and quality of life at 1-year follow-up. Results of our research in terms of composite outcome, low complication rates and patient satisfaction are superimposable. Thus, in our hypothesis, both techniques could be chosen according to patient's features and prolapse characteristics, in order to personalize surgical approach. However, a randomized controlled trial is needed to establish the laparoscopic technique as an alternative to native tissue repair approach.

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17 - CLINICAL EVALUATION OF THE UPHOLD LITE MESH FOR THE SURGICAL TREATMENT OF UTERINE-PREDOMINANT PROLAPSE: A PROSPECTIVE, MULTI-CENTER TRIAL.

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	Inclusion score	M12 score	P value
• PFDI20	100.1 +/- 48.65	28.12 +/- 34.57	< 0.001
POPDI6	45.29 +/- 21.45	5.43 +/- 11.53	< 0.001
CRADI8	19.14 +/- 15.08	10.01 +/- 11.75	< 0.001
UDI6	35.35 +/- 24.7	12.68 +/- 18.45	< 0.001
• PFIQ7	59.63 +/- 53.68	11.03 +/- 33.35	<0.001
UIQ7	27.54 +/- 28.3	6.18 +/- 15.56	<0.001
CRAIQ7	8.27 +/- 15.61	2.84 +/- 11.39	<0.001
POPIQ7	24.33 +/- 26.07	3.31 +/- 11.66	<0.001
• PISQ 12	32.44 +/- 6.78	36.76 +/- 6.42	0.007

INTRODUCTION AND AIM OF THE STUDY

Vaginal mesh surgery for pelvic organ prolapse is known to improve anatomic results(1). The Uphold Lite mesh is a second generation of mesh kits and seems to decrease peri-operative morbidity. Two studies reported success rate with this technique between 74% and 77% and about 20% of reintervention for recurrent prolapse. (2,3)

The aim of this study was to evaluate the efficacy of the UpHold™ LITE mesh over a 12 month follow up period, using a composite outcome.

MATERIALS AND METHODS

We performed a prospective multicenter observational study. Women undergoing an anterior mesh surgery because of a >= stage 2 ICS POP-Q symptomatic prolapse were included. The main endpoint was a composite outcome including a good anatomical correction for both anterior and apical compartment (stage 0 or 1), no prolapse symptoms (answer “No” at question 3 of the PFDI-20) and no re-intervention for a recurrent prolapse of the anterior or apical compartment after 12 months of follow up. The secondary endpoint was the rate of post-operative complication and functional results. The Committee for the Protection of Persons *Sud Méditerranée* III approved this study and this study was registered with ClinicalTrials.gov, number NCT01559168.

RESULTS

One hundred twenty-one patients were included. One hundred and three patients completed the 12 months follow up. The mean age was 67.27 +/- 8.59, 9.1% of patient had previous genital prolapse surgery, the mean preoperative Ba point was 1.59 +/- 1.89 (-3 ; 6) and mean C point was 1.42 +/- 2.75 (-6 ; 8). The success rate using composite endpoint was 72.4% CI 95% [62.3% ; 80.7%] (Table 1). The rate of reintervention for a recurrent prolapse of the anterior or apical compartment was 3.9 % (4/103). Anatomical recurrence evaluated by Ba point occurred in 18.2% of patients (18/99) vs 7.2 % (7/97) for recurrence evaluated by C point. The rate of functional recurrence was 6% (6/100). The success rate was significantly higher in center with more than 30 inclusions (80 % vs 50%; p = 0.045). The rate of early and late complication were 19% (23/103) and 9 % (10/103), respectively. Major complications were hematoma : 0.8% (1/121) and ureteral obstruction : 0.8% (1/121) .The rate of urinary retention was 11.6% (14/121) and the rate of mesh exposure was 2.5 % (3/121).

We observe an improvement of all quality of life score between inclusion and 12 months visit even sexual quality of life (Table 2). The rate of de novo dyspareunia was 2.5%.

Composite endpoint of recurrence	Mean +/- sd Ou n (%)
Reintervention for anterior or apical recurent prolapse	4 (3.9%)
Anatomical recurrence at M12	
• .Ba ≥ (-1)	18 (18.2%)
• .C ≥ (-1)	7 (7.2%)
Functional recurrence : Positive answer at Q3 of PFDI-20	6 (6%)
Composite endpoint of recurrence	27 (27.6%)

Table 1 : Composite outcome of anatomic and functional succes

Table 2 : Results of functional outcomes

INTERPRETATION OF RESULTS

Vaginal mesh surgery using the Uphold LITE mesh kit seems to be safe and efficient (with success rate at 72.4 %) in particular in training centers. The success rate was significantly different between the centers. In this surgery, experience seems to be an important factor of success.
We obtained good functional results including for sexual function.

CONCLUSIONS

Vaginal mesh surgery using the Uphold LITE mesh kit may be an option for women requiring anterior and apical prolapse repair by vaginal route.

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18- 12-MONTH NATURAL HISTORY OF FIRST STAGE VAGINAL PROLAPSE/LAXITY OF THE POSTERIOR VAGINAL WALL IN WOMEN SUBMITTED TO RECONSTRUCTIVE PELVIC SURGERY FOR PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Posterior vaginal wall prolapse (also known as 'posterior compar tment prolapse') can cause a sensation of bulge in the vagina along
with symptoms of obstructed def ecation and sexual dysfunction. Interventions for prevention and conservative management include
lifestyle measure s, pelvic floor muscle training, and pessary use.
Posterior vaginal wall prolapse (also known as 'posterior compar tment prolapse') can cause a sensation of bulge in the vagina along
with symptoms of obstructed def ecation and sexual dysfunction. Interventions for prevention and conservative management include
lifestyle measure s, pelvic floor muscle training, and pessary use.
Pelvic organ prolapse (POP) is common and is seen on examination in 40% to 60% of parous women. The annual aggregated rate of associated surgery in the United States is in the range of 10 to 30 per 10,000 women. Pelvic organ prolapse is the descent of one or more of the pelvic organs (uterus, vagina, bladder, or bowel). Types of prolapse include upper vaginal prolapse, anterior vaginal wall prolapse and posterior vaginal wall prolapse (i.e. enterocele (small bowel descends), rectocele (rectum descends), perineal deficiency). Posterior vaginal wall prolapse can cause the sensation of bulge in the vagina and can also cause symptoms of obstructed defecation, sometimes requiring splinting or digitation to facilitate bowel emptying. Posterior vaginal wall prolapse can be treated conservatively with pelvic floor muscle training or vaginal pessaries, or it can be managed surgically (1). From the surgical experience of our center, posterior vaginal wall correction appears to be related with higher rates of postoperative *de-novo* dyspareunia. Worldwide genital prolapse is evaluated with POPQ-system (POPQ-s) which provides an objective, site-specific tool for describing, quantifying, and staging pelvic support. The reproducibility of the system was found to be good through evaluation of the interrater and intrarater reliability. POPQ provides a validated, precise method of communicating the physical examination in patients with pelvic organ prolapse Several different operations are currently performed to manage prolapse of the posterior vaginal wall (2). Aim of this study is evaluation of posterior vaginal wall prolapse in patients who underwent to vaginal hysterectomy and anterior vaginal wall correction for POP without posterior vaginal wall correction. The first aim of this study is to observe the natural history of a first stage prolapse/laxity of the posterior vaginal wall in women submitted to reconstructive surgery for other vaginal wall prolapse compartments. The secondary aim is to assess a possible correlation between increased grade of posterior vaginal wall prolapse and established risk factors for POP such as: obesity (body mass index $\geq$ 30), previous pelvic surgery, multiparity, fetal macrosomy, operative delivery, constipation and chronic cough.

MATERIALS AND METHODS

Women with first stage prolapse/laxity of the posterior vaginal wall submitted to vaginal hysterectomy ± anterior vaginal wall repair for symptomatic uterine descent ± anterio vaginal wall prolapse $\geq$ 2 Stage were included. Pre-operatively all women were evaluated in our outpatient clinic. Urinary, bowel and prolapse symptoms were recorded as well as possible risk factors for POP occurrence such as: BMI, previous pelvic surgery, multiparity ($\geq$ 2 vaginal deliveries), fetal macrosomia, operative delivery, constipation and chronic cough. Prolapse was scored accordingly to the ICS-POPQ-system. Postoperatively women were reassessed at 40 days and 3-6-12 months follow-up. Women who presented a worsening of posterior vaginal wall prolapse were included in Group 1, whereas women with an unchanged anatomy in the posterior vaginal wall were included in Group 2.Data between two groups were compared for evaluating any possible risk factor predicting the change in anatomy of the posterior vaginal wall. The Student's t test was used for statistical analysis and a $p<0,05$ was considered significant.

RESULTS

Twenty seven women were included in this study. Five of them presented a worsening of the posterior vaginal wall prolapse at 12 months follow-up (Group 1). In the other 22 patients included in this study (Group 2) an unchanged anatomy of the posterior vaginal wall was observed after 1 year.
Table 1 shows the comparison between Group 1 and 2 for possible risk factors for POP occurrence.

Table 1. – Rate of possible risk factors for prolapse occurrence in Group 1 and 2 and p-value

	Group 1 (n=5)	Group 2 (n=22)	*p-value*
Obesity	20%	14%	0.72
Previous pelvic surgery	20%	14%	0.72
Multiparity	80%	68%	0.6
Fetal macrosomy	20%	18%	0.92
Operative delivery	20%	14%	0.71
Constipation	80%	27%	0.03
Chronic cough	20%	14%	0.71

INTERPRETATION OF RESULTS

From our study obesity, previous pelvic surgery, multiparity, fetal macrosomia, operative delivery and chronic cough are not statistically correlated to the development of a clinically significant posterior vaginal wall prolapse in women first stage prolapse/laxity of the posterior vaginal wall in women submitted to reconstructive surgery for other vaginal wall prolapse compartments. Constipation showed a statistically significant correlation with the development of clinically significant prolapse in the posterior vaginal wall in the considered population.

CONCLUSIONS

This is the first study evaluating the natural history of mild posterior vaginal wall descent in women operated for other types of POP. Constipation resulted the only factor related to the development of a clinically significant prolapse. This could improve the preoperative counselling in this group of women and the as well as the post-operative management increasing our attention for an improved management of bowel function in this population

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19 - PECTOPEXY: FIRST OPERATIVE DATA FROM A MULTI-CENTER INTERNATIONAL TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Laparoscopic sacral colpopexy is considered to be a "gold standard" in terms of restoration of a physiological axis and position of the vagina. Nevertheless, presacral preparation required for this procedure bears such risks as an injury to venous vessels and hypogastric plexus and nerves. The preparation itself might be particularly demanding in obese patients and in patients with a history of a previous bowel surgery. The mesh itself narrows the lesser pelvis. Reduced volume of the pelvis together with intraoperative damage of hypogastric nerves and plexus might cause constipation, urinary tract symptoms and sexual dysfunction as long term postoperative complications.

Pectopexy is an alternative method for apical defect correction without presacral preparation. The apex - vagina or cervix - is suspended bilaterally in a hammock-like manner to both pectineal ligaments by the means of a polyvinylidene fluoride (PVDF) mesh (Figure 1).

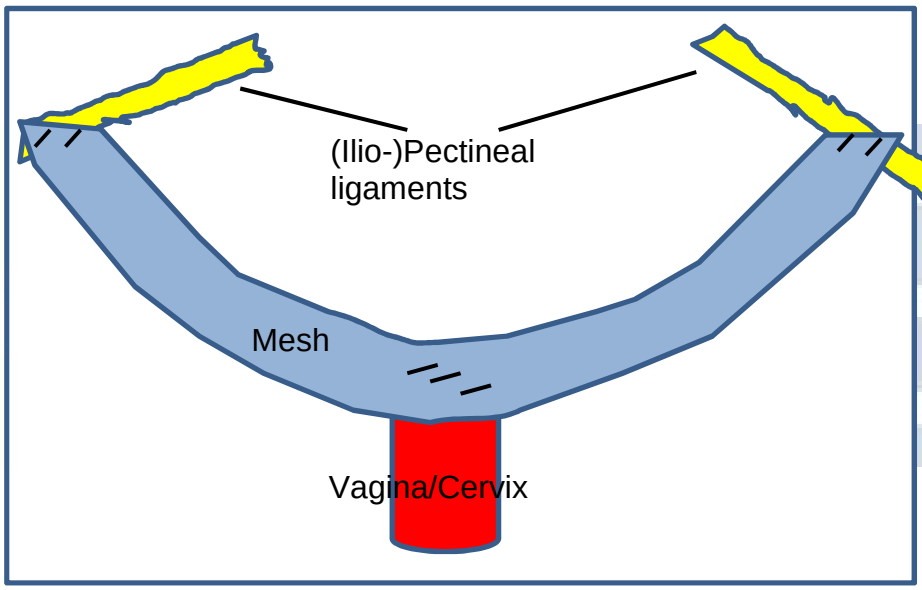

Figure 1

The initial experience with this procedure was provided by a randomized controlled clinical pilot study, conducted in the past. Patients with an apical defect were randomized either to the pectopexy (44 patients) or sacropexy group (41 patients). Accompanying interventions were carried out in both groups, if necessary (e.g. anterior repair for central defect cystocele etc.). Short term peri-operative and mid-term follow up results were analyzed (21.8 vs. 19.5 months). The surgical time and blood loss were slightly lower in the pectopexy group; no major complications occurred during the surgery or in the short postoperative period. After the follow up period, 1 patient in the pectopexy group (2,3%) and 4 patients in the sacropexy group (9,8%) developed a relapse of the apical defect. No cases of de novo constipation were observed in the pectopexy group, whereas 8 sacropexy patients (19.5%) developed this symptom.

To evaluate the feasibility of pectopexy under everyday conditions, an international multi-center prospective study was carried out.

MATERIALS AND METHODS

Patients with symptomatic apical defect ≥ POP Q II received laparoscopic pectopexy in a standardized way; all interventions were carried out by experienced endoscopic surgeons. If necessary, additional interventions were carried out in the same surgery to treat other pelvic floor defects. Baseline characteristics and surgical data was anonymized and recorded.

RESULTS

Baseline data:

93.0 % of the patents had at least 1 spontaneous delivery and 6.2 % cesarian section in their medical history; 0.8 % of all patients were nulliparous. The leading complaint in all patient was the sensation of pelvic pressure.

Abdominal and vaginal hysterectomy in the medical history showed a statistically significant impact on the occurrence of posterior defect.

Operative data:

Over a period of 15 months, 501 patients underwent pelvic floor surgery in 11 medical centers in 4 countries. Mean operative time for pectopexy was 60 min (range 24-120 min). Severe complications were reported in 0.8 % (total 4 cases: 1 in a high volume, 2 in medium volume and 1 in a low volume center). The intraoperative blood loss exceeded 1000 ml for 1 patient.

Concerning the learning curve, a stable level of performance was reached by all surgeons after about 30 procedures, followed by a constant albeit much slower improvement.

In the majority of cases, combined surgeries were required for complex pelvic floor defects (e.g. anterior repair for central defect cystocele). The operative time for combined procedures did not differ from the data described in the current literature for laparoscopic sacral colpopexy in similar settings.

INTERPRETATION OF RESULTS

Laparoscopic pectopexy was carried by various experienced endoscopic surgeons. Although not all of them had an extensive experience with this particular approach prior to this study, the data revealed a low rate of major intraoperative complications. The data concerning individual learning curves of all surgeons indicates that about 30 interventions were required to reach a steady state. The duration of surgeries was comparable with sacral colpopexies according to the data provided by current publications.

CONCLUSIONS

Pectopexy is a new promising method for apical defect correction. The short time operative results show that in experienced hands, this method is associated with a low risk of major intraoperative complications. This data confirmed the outcome of the previously conducted pilot study and demonstrated that pectopexy is a safe procedure if it is performed by a skilled surgeon.

The study provides also the first learning curve data indicating that an experienced surgeon needs about 30 procedures to reach his level of proficiency.

Although the previously conducted pilot study showed a low risk of prolapse recurrence after pectopexy, this approach cannot be yet generally recommended as an alternative to sacral colpopexy until the long term follow up results of the current multi-center trial are obtained.

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20 - PELVIC ORGAN SURGERY USING UPHOLD TM VAGINAL MESH: IS CONCOMITANT HYSTERECTOMY A RISK FACTOR FOR MESH EXPOSURE?

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Pelvic organ surgery using Uphold TM vaginal mesh: Is concomitant hysterectomy a risk factor for mesh exposure?

SA/LA/AH/BF/RDT

INTRODUCTION AND AIM OF THE STUDY

Trans-vaginal sacro-spinous fixation with mesh for apical prolapse is a validated treatment. Therefore, a vaginal hysterectomy can be realised at the same time if there is an indication (uterine of cervix abnormalities, previous breast cancer using tamoxifene, risk factor for endometrial cancer). But, it seems to increase the risk of mesh exposure and complications.

The aim of this study was to estimate the results and complications of trans vaginal mesh surgery for pelvic organ prolapse in three groups: previous hysterectomy, concomitant hysterectomy and uterus sparing.

MATERIALS AND METHODS

We performed a retrospective monocentric observational study. Vaginal sacrospinous ligament fixation with anterior mesh surgery, using both Uphold and Uphold Lite mesh (Boston Scientific), was performed on 328 patients with advanced symptomatic pelvic organ prolapse (POPQ >= stage 2). Outcomes were anatomical success defined as < stage 2 for anterior and apical prolapse, reoperation rate for mesh exposure. Outcomes measures were observed in three groups: previous hysterectomy, concomitant hysterectomy and uterus sparing.

RESULTS

43, 43 and 242 patients were included in previous hysterectomy, concomitant hysterectomy and uterus sparing groups, respectively. The median follow up was 12 months [5 months-45 months]. Main characteristics of the patient and main results are shown in Table 1.

Table 1 : Characteristics of the patient and results of main outcomes (anatomical success and complication) and secondary outcomes (functional results) :

	Previous hysterectomy n=43	Concomitant hysterectomy n=43	Uterus sparing n=242	p
Age (years)	70	66	69	P=0,96
BMI (kg/m2)	25.8	26.1	24.7	P=0,62
Smoking	4 (9.3%)	4 (9.3%)	10 (4.1%)	P=0,19
Previous prolapse surgery	14 (32.6%)	7 (16.2%)	22 (9.1%)	**P=0,01**
Parity	2,4	2,4	2,4	P=0,78
Menopause	41 (95.3%)	41 (95.3%)	239 (98.7%)	P=0,17
Anatomical success rate	41 (95.3%)	41 (95.3%)	237 (97.9%)	P=0.24
Intra operative rate complication	1 (2.3%)	0 (0%)	3 (1.2%)	P=0.76
Reoperation rate for mesh exposure	2 (4.6%)	1 (2.3%)	4 (1.6%)	P=0.22
Postoperative stress urinary incontinence rate	14(32.6%)	16(37.2%)	74(30.6%)	P=0.60
Postoperative Urge urinary incontinence rate	15(34.9%)	7 (16.3%)	69(28.5%)	P=0.83
Post operative Voiding dysfunction rate	5(11.6%)	1(2.3%)	18(7.4%)	P=0.64

Data are presented as n (%)

INTERPRETATION OF RESULTS

Utero-vaginal suspension using bilateral vaginal anterior sacrospinous fixation with mesh seems to be effective and safe in the three groups.

CONCLUSIONS

Vaginal mesh reconstructive surgery using Uphold or Uphold Lite with concomitant hysterectomy does not seem to be a risk factor for mesh exposure.

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21 - PROSPECTIVE EVALUATION OF SEXUAL LIFE IN WOMEN WITH BREAST CANCER AFTER CO2 LASER TREATMENT FOR VULVOVAGINAL ATROPHY

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INTRODUCTION AND AIM OF THE STUDY

Breast cancer is the most common malignancy in women worldwide. Recent improvements in diagnostic techniques and therapeutic approaches led to a significant increase in overall survival. Therefore, investigating the impact of cancer treatments on quality of life has become a fundamental issue.

Hormone receptor-positive breast cancers are the most common type, accounting for 75 percent of all cases. Current standard treatment for these patients includes, besides surgery, radiotherapy and chemotherapy, adjuvant endocrine therapy (i.e., GnRH analogues, tamoxifen and aromatase inhibitors). Although effective in increasing progression-free survival, the prolonged estrogen-deprivation determined by these compounds can lead to severe vulvo-vaginal atrophy (VVA) and a range of genitourinary symptoms such as vaginal dryness, burning, itching and dyspareunia. This can result in an impairment of all aspects of sexual function, with devastating impact on quality of life and relationship disruption. Also patients receiving chemotherapy can experience similar symptoms as a direct consequence of treatment.

Recent studies have shown that fractional micro ablative CO2 laser, restoring trophism in the lower genitourinary tract, significantly improved VVA symptoms in women suffering from genitourinary syndrome of menopause. Given the paucity and low-efficacy of non-hormone based VVA treatments and the severity of genitourinary symptoms in breast cancer survivors, CO2 laser seems the ideal approach in these patients.

The aim of this study was to evaluate the efficacy of CO2 laser technique in breast cancer patients suffering from VVA (particularly those receiving hormonal treatment), focusing on the improvement of the domains of sexual functioning (arousal, orgasm, satisfaction and pain) after treatment.

MATERIALS AND METHODS

This prospective cohort study included 28 women affected by breast cancer, treated by chemotherapy and\or hormone therapy, referring to our center for vulvovaginal atrophy associated with an impairment of sexuality. All patients were treated intravaginally with a cycle of five treatments (one treatment every 30 days) of fractional microablative CO2 laser system (SmartXide2 V2LR, Monalisa Touch, DEKA, Florence, Italy). The Female Sexual Function Index (FSFI) was used to evaluate sexual life before the beginning of treatment (T0) and one month after the last cycle of CO2 laser (T1). Also the Visual Analogic Scale (VAS) and Vaginal Health Index (VHI) scores were used to assess the severity of vulvovaginal symptoms and local conditions before (T0) and one month after the last treatment (T1). All patients expressed the rate of satisfaction of the CO2 laser treatment with a Likert scale. Scores at baseline (T0) and follow-up (T1) were calculated and compared by Student's *t* test and a $p<0,05$ was considered significant.

RESULTS

The average age of our population was 52 years (range 35-70).

Table A shows VHI scores,Table B VAS scores and Table C FSFI scores at T0 and T1 assessments (expressed by mean ± standard deviation).

Table A *Vaginal health index value assessed before (T0) and one month after the last treatment (T1)*

	T0	T1	*p*-value
VHI	11,3 ± 1,9	14,7 ± 2,2	0,001

Table B *VAS scale value assessed before (T0) and one month after the last treatment (T1)*

VAS SCALE	T0	T1	*p*-value
prolapse symptoms	1,4 ± 2,7	1,1 ± 2,3	ns

low sensitivity during intercourse	6,0 ± 3,5	4,1 ± 3,3	0,01
loss of air\water from the vagina	1,3 ± 2,7	1,2 ± 2,2	ns
dryness	8,4 ± 2,2	6,2 ± 3,1	0,002
burning	5,6 ± 3,4	3,8 ± 3,0	0,04
itching	2,5 ± 3,0	1,8 ± 2,7	ns
leucorrhoea	1,4 ± 2,7	1,7 ± 2,6	ns
dyspareunia	7,6 ± 3,8	5,2 ± 3,7	0,01
dysuria	1,9 ± 3,1	1,1 ± 2,1	ns

Table C *FSFI value assessed before (T0) and one month after the last treatment (T1)*

FSFI	T0	T1	*p*-value
DESIRE	2,7 ± 1,3	3,5 ± 2,1	ns
AROUSAL	2,1 ± 1,3	3,2 ± 1,9	0,01
LUBRICATION	1,9 ± 1,6	2,7 ± 1,7	0.05
ORGASM	2,1 ± 1,5	3,0 ± 1,9	0,01
SATISFACTION	2,2 ± 1,3	3,1 ± 1,9	0,01
PAIN	1,8 ± 2,4	2,3 ± 2,0	ns
FSFI TOTAL	12,7 ± 6,5	18,1 ± 9,5	0,003

At the end of treatment, patients' grade of satisfaction on a Likert scale was the following: 2 patients (7,1%) declared themselves very satisfied with the treatment, 13 (46,4%) were satisfied and 13 (46,4%) were neither satisfied nor dissatisfied.
Fourteen women (50%) were taking hormonal treatment at the time of study. The same analysis was performed only including this subgroup of patients: they showed a significant improvement of dryness (p=0.03), burning sensation (p=0.04), dyspareunia (p=0.04), arousal (p=0.04), lubrication (p=0.04), orgasm (p=0.001), satisfaction (p=0.03) and total FSFI (p=0.0001).

INTERPRETATION OF RESULTS

CO2 laser treatment determined a significant improvement of average VHI after treatment. Vaginal dryness, burning sensation and dyspareunia were significantly reduced. Finally, patients undergoing laser treatment showed a higher score in the arousal, the lubrication, the achievement of orgasm and the satisfaction domains of FSFI. The effects of these improvements are reflected in the significant increase of FSFI total score after treatment. The subgroup analysis showed a significant improvement of VVA symptoms and FSFI score even in those patients being treated with hormone-suppressive treatment at the time of the study.

CONCLUSIONS

Patients suffering from breast cancer treated with chemotherapy and/or hormone therapy have shown a good improvement of sexual function, as well as symptoms of VVA, after 1 cycle of five treatments of microablative fractional CO2 laser treatment. This is the first analysis showing that the benefit reported by women is maintained also during iatrogenic estrogen deprivation.

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22 - IS THERE A SIGNIFICANT DIFFERENCE IN THE PSYCHOLOGICAL PROFILE OF PATIENTS WITH BLADDER DETRUSOR CONTRACTIONS (URODYNAMICALLY-CONFIRMED OAB)?

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INTRODUCTION AND AIM OF THE STUDY According to the definition of the International Continence Society (ICS) an overactive bladder (OAB) is defined as "urinary urgency, with or without urge urinary incontinence, usually with frequency and nocturia" therefore, it can be diagnosed on the basis of an anamnesis/micturition diary [1]. At the same time, OAB can be objectively confirmed in a urodynamic study (UDS) by diagnosing an involuntary detrusor contraction (IDC). The previous study showed that patients diagnosed with OAB by using a frequency/volume chart only in 38 % have in UDS IDC [2]. Maybe an overactive detrusor (OAD), associated with the symptoms of an overactive bladder (OAB) is a different disease than OAB, which has been not confirmed by a urodynamic study, maybe in these cases psychological factors play a bigger role than biology and receptors [3]. The aim of this study was to assess specific differences between some personality traits (Emotional Stability, Extraversion, Openness, Agreeableness and Conscientiousness) and emotional control (Anger, Anxiety and Depressed mood) among women with OAB without IDC in urodynamic study and urodynamically proved IDC in UDS.

MATERIALS AND METHODS The study was conducted on 92 women reporting OAB symptoms. All patients underwent a gynaecological examination according to the POPQ measurement scale, urine analysis, micturition diary as well as UDS. In this group, 54 patients were diagnosed with OAB, based on the ICS definition, infection of the urinary tract was excluded, no POP or other gynaecological abnormalities were detected and UDS was performed with cystometry and bladder detrusor function assessment. The study group was divided into two groups: lack of IDC in UDS and IDC present in UDS. Participants' age from the first group ranged from 28 to 79 years (59, 39 ±14.51), the average BMI index was 27.32 (±6.45), (the range from 20.3 to 47). The age of women from the second group ranged from 36 to 81 years (59.68±11.34), the average BMI index was 28.19 (±4.95), (the range from 20.1 to 36.7). In order to quantify the psychological status of our patients we used Polish versions of specific psychological questionnaires: 1) Ten-Item Personality Inventory (TIPI) to assess five broad personality domains (Emotional Stability, Extraversion, Openness, Agreeableness and Conscientiousness), 2) Courtauld Emotional Control Scale, CECS measuring control of three types of emotions: Anger, Anxiety and Depressed mood. Statistical analysis was performed with the use of PaswStatistics v. 24.

Descriptive Statistics

Group		N	Minimum	Maximum	Mean	Std. Deviation
Lack of IDC in UDS group	age	33	28,0	79,0	59,394	14,5149
	height	32	154,0	172,0	162,219	5,3021
	weight	31	49,0	120,0	71,613	16,4310
	BMI	31	20,3	47,0	27,325	6,4503
	MCC	33	155,00	430,00	288,2424	75,71246
OAB group with IDC in UDS	age	22	36,0	81,0	59,682	11,3448
	height	22	150,0	172,0	163,045	5,4378
	weight	22	54,0	106,0	74,727	12,4104
	BMI	22	20,1	36,7	28,186	4,9478
	MCC	22	33,00	364,00	230,5909	67,95563

RESULTS The analyses showed the existence of subtle differences between the studied groups (see Figure 1 and 2). Generally women from lack of IDC group have the highest results in all measures of emotional control. However, statistically significant differences were revealed in control of Anger (t=2.56; p=0,014) (see Table 1). Detailed analysis of personality profiles showed that women from the lack of contraction group have higher level of Agreeableness and Extraversion than from those who feel bladder contraction. Statistical differences were found only in Agreeableness (t=2.12; p=0.039).

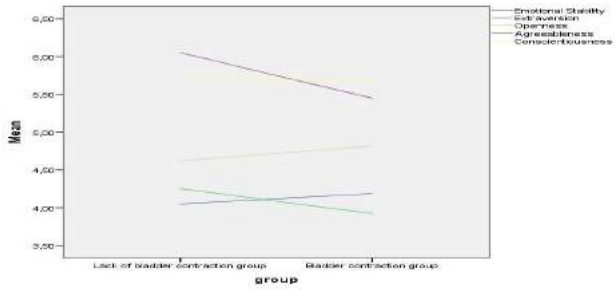

Figure 1. Personality profile of OAB women with IDC and without IDC in UDS.

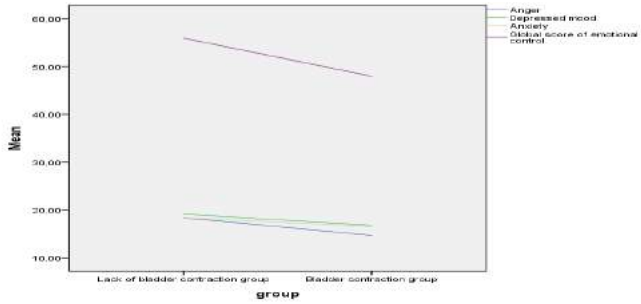

Figure 2. Emotional control profile of OAB women with IDC in UDS and without IDC.

Table 1. Differences between some psychological factors among women with IDC in UDS and without IDC.

Variables:	Lack of bladder contraction group		Bladder contraction group		t	p
	M	SD	M	SD		
Emotional Control:						
Anger	18.38	4.12	14.67	6.45	2.56	0.014
Depressed mood	19.16	4.43	16.76	6.19	1.64	0.107
Anxiety	18.36	4.92	16.52	5.49	1.28	0.206
Global score	54.76	12.69	47.95	16.48	1.71	0.093
Personality profile:						
Emotional Stability	4.05	1.77	4.18	1.23	-0.29	0.774
Extraversion	4.25	1.44	3.92	1.66	0.74	0.466
Openness	4.62	1.67	4.82	1.28	-0.44	0.660
Agreeableness	6.05	0.80	5.45	1.19	2.12	0.039
Conscientiousness	5.70	1.24	5.68	1.16	0.05	0.965

INTERPRETATION OF RESULTS OAB is not a homogenous disease entity. Confirmation of OAB in UDS (presence of IDC) gives certainty of the biological cause of the reported urinary frequency, nocturia, urgency, urine incontinence. In the absence of detrusor contractions in the UDS; it used to be defined as sensory urgency and here it seems interesting to see if this group of patients has a different psychological profile. Our study confirmed small psychological differences in both studied groups of OAB patients. Women suffering from OAB but who do not present IDC in UDS are more likely to be more agreeable and may be often seen as naive or submissive. They may also have a tendency to overly control anger. No similar studies have been reported in medical databases, so further analysis of OAB causes seems necessary due to difficulties in treating this disease entity.

CONCLUSIONS Maybe urodynamically-confirmed OAB in women is more of a biological disease and the presence of IDC in UDS biologically and receptor-conditioned, and not urodynamically-confirmed OAB is more psychosomatically conditioned. But confirmation of this thesis requires larger groups of patients and more detailed research tools for psychological diagnosis.

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23 - MESOANGIOBLASTS ENHANCE NEUROMUSCULAR HEALING IN A SIMULATED VAGINAL BIRTH INJURY RAT MODEL: DOSE RESPONSE

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INTRODUCTION AND AIM OF THE STUDY

Vaginal birth is an important risk factor for the later occurrence of pelvic floor dysfunction (PFD), including stress incontinence. Passage of the fetal head results in an excessive and sustained high pressure and deformation of the pelvic floor leading to both ischemia and reperfusion and stretch-related injury to nerves and muscles. There are at present no therapeutic interventions that can assist in its full recovery. Cell therapy has been suggested as an experimental strategy to assist in healing from simulated vaginal birth injury in rats, using a variety of cell sources[1]. Mesoangioblasts (MABs) are capable to differentiate towards muscular tissue and have a paracrine capability, hence are interesting for treating PFD [2]. We have shown that intra-arterial delivery increased the amount of MABs in the pelvic region and a more homogeneous distribution over all relevant pelvic organs, as compared to direct or intravenous delivery. Herein we aimed to investigate the efficacy of different doses of heterologous MABs in the modulation of urethral sphincter healing after simulated vaginal delivery (SVD) injury.

MATERIALS AND METHODS

Forty virgin Sprague-Dawley female rats underwent SVD[3]. Heterologous MABs were isolated from 3-week-old other rats muscle biopsies. One hour after SVD, rats were randomly assigned to receive MAB in different doses: 0.5; 1.0 or $2.0x10^6$ or saline intra-arterially (control; up to n=10 survivors in all groups). The mechanism of action of MAB was assessed by morphometric and molecular analysis at 3 and 7 days. In the early phase, we investigated the impact of MAB on the nerve injury (Gap43, c-jun, Uchl1, Aquaporin4, Periaxin, pmp22, cadherin22, GFAP), skeletal (Pax3, Pax7, MDFI, Myh1, Myog) and smooth muscle (actn2, cnn1, smoothelin, acta2, myh11, collagen3, collagen 1, rbp, osteopontin, rock1, elastin) healing markers.

RESULTS

The survival rate was 95%, 75%, 65%, and 100% in the $0.5x10^6$ MABs; $1.0 x10^6$ MABs, $2.0x10^6$ MABs and saline groups, respectively. MABs induced downregulation of nerve injury markers (aquaporin4, periaxin, pmp22 and cadherin22) and upregulation of nerve (gap43) and smooth (actn2, acta2) and skeletal muscle regeneration markers (Pax7, Myog, Myh1) (Figure 1). Moreover, 0.5 x106 MABs rats had a significantly higher nerve regeneration marker expression (gap43) and significantly higher skeletal muscle regeneration marker (PAX7).

INTERPRETATION OF RESULTS

Administration route and dosage are two critical factors determining the effcacy of cell therapy. The survival rate and the neuromuscular boosting in animals seem dose dependent, with 0.5 million cells yielding the best survival rates and the higher neuromuscular regenerative effect.

CONCLUSIONS

Intra-arterial injection MABs leads to enhancement of the neuromuscular healing markers in the urethra at 3 days following SVD. The dose of $0.5×10^6$ MABs seems to be the most effective. Further analyses to investigate its functional effect will be further evaluated.

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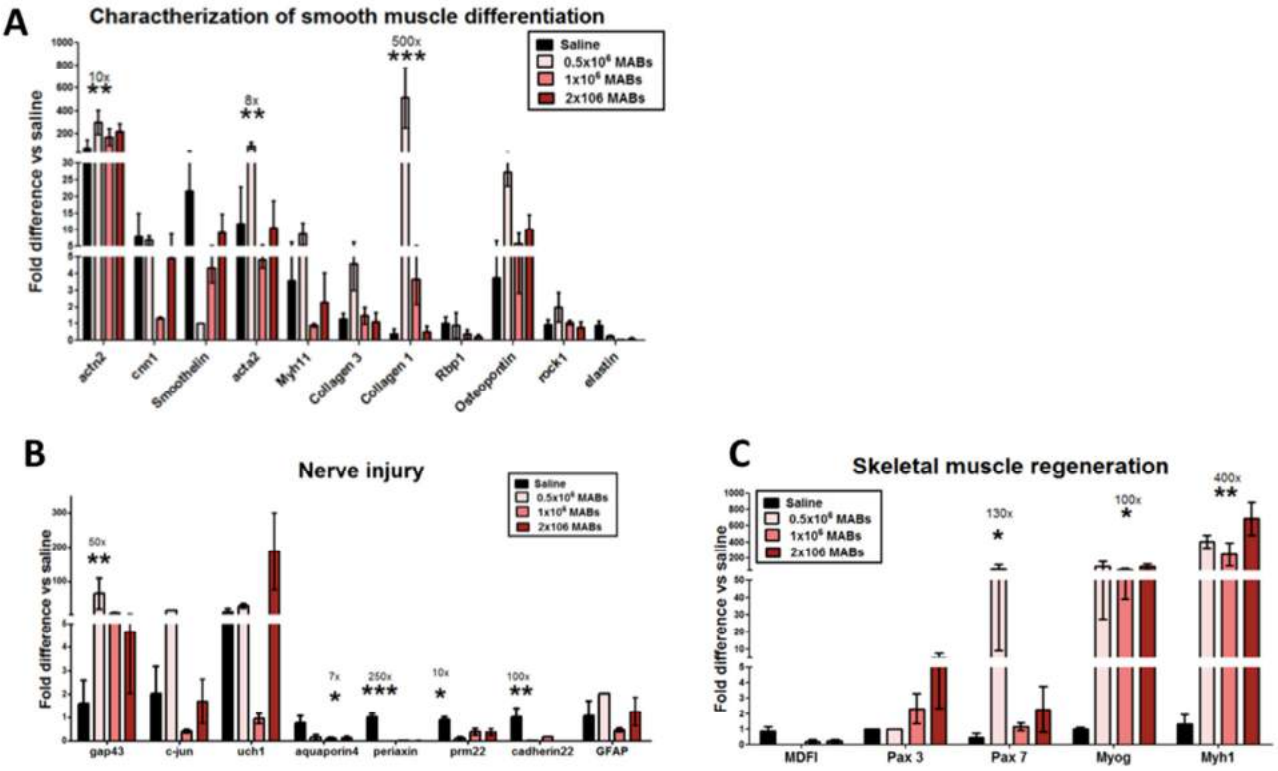

Figure 1- Gene expression at mRNA level of smooth muscle differentiation (A), nerve injury (B) and skeletal muscle regeneration (C) markers in the urethra in a simulated birth injury model treated with mesoangioblasts.

24 - STRESS URINARY INCONTINENCE IN ELITE FEMALE ATHLETES AT THE 2018 COMMONWEALTH GAMES

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) as defined by the International Continence Society, is "the complaint of any involuntary loss of urine on effort or physical exertion, including sporting activities, sneezing or coughing etc." It is believed to affect between 10-55% of 15 and 64-year-old women. The incidence increases with age and parity due to the association with a weakened pelvic floor musculature and connective tissue.

SUI can be physically uncomfortable, psychologically distressing and socially difficult to manage. It is believed to be under-reported and women may well modify their behaviour to minimise the risk of SUI occurring.
Thyssen (2002), interviewed 291 elite female athletes and revealed 52% had suffered from SUI, 96% while training and 52% during competition. In the same year, a study by Eliasson, found 80% of 35 elite gymnasts in Sweden suffered from SUI.
Modern sporting apparel worn by elite athletes does not appear conducive to the use of pads that women can choose to wear to manage SUI. Without the use of pads (because of the nature of the sporting apparel) any SUI is more likely to be visible and embarrassing for the individual. The hypotheses for this study are therefore twofold.

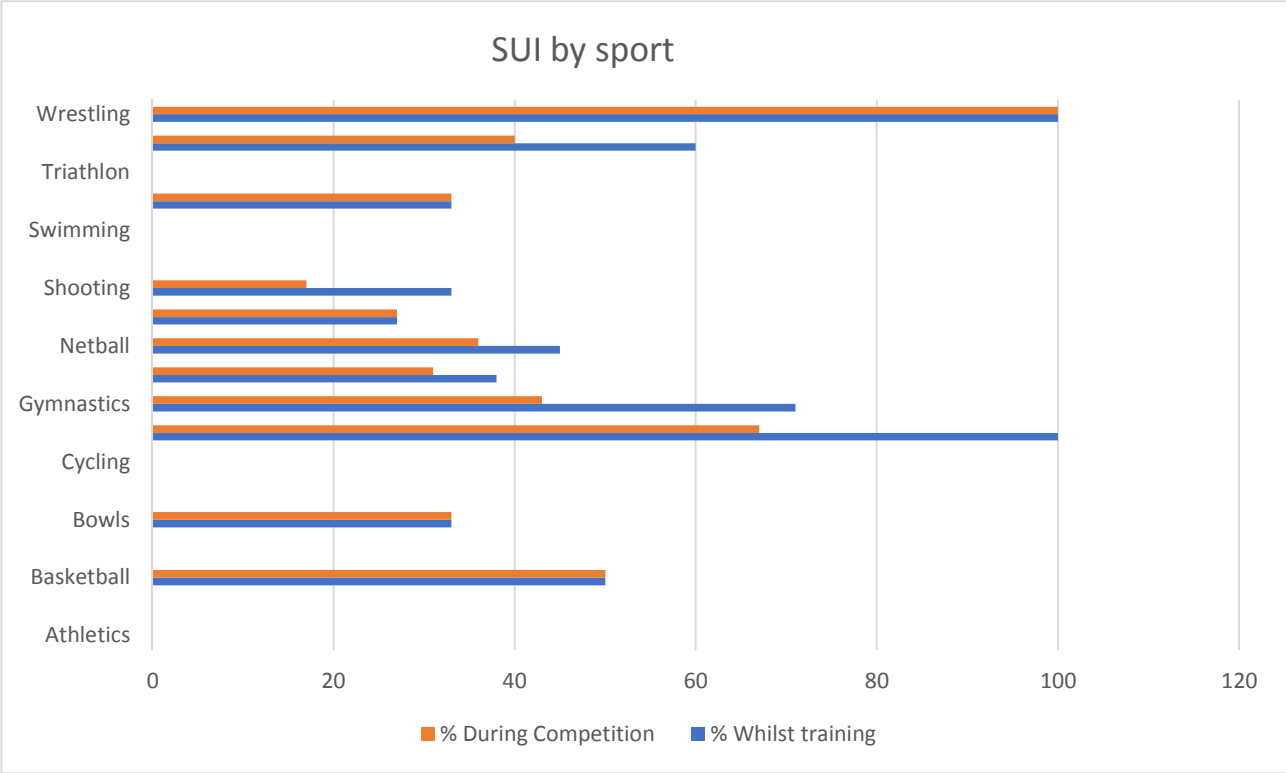
1- The rate of SUI is increased in all female athletes who compete in elite sport.
2- Because of SUI and poor protection, athletes, may under hydrate in an attempt to limit the amount leakage.

MATERIALS AND METHODS

Approval for this study was obtained from managing body for "Team England" athletics. Consent forms and a modified questionnaire was given to all Team England elite female athletes competing at the 2018 Commonwealth games in Australia. The questionnaires assessed parity, the sport they compete in, the level of incontinence suffered, whether it happened in training, competition, during activities of daily living and/or any combination of those scenarios. The subjects were also asked how they managed any incontinence they suffered and specifically whether they reduced their hydration. They were asked whether they felt that their performance was negatively affected by any self-management strategies of SUI and whether comments had been made by the coaching staff about performance. The subjects were also questioned on whether the kit they wore, in both training and competition, was conducive to wearing pads to manage any SUI that occurred.

RESULTS

103 responses, out of a possible 198 (52%) from athletes participating in 19 sports
38% (39/103) suffered SUI whilst training and 28% suffered SUI during competition
42% of the athletes suffered SUI during sport only, whilst 14% suffered SUI during sport and normal activities of daily living.
50% (52/103) of the athletes felt that their training gear and 56% (58/103) felt their competition kit would not permit the use of discrete pads to manage SUI symptoms.
30% of athletes whilst training and 29% during competition, who reported SUI, reduced their oral fluid intake as a consequence.
25% of those athletes whilst training and 28% of during competition, who reduced oral fluid intake, felt that by doing so it negatively affected their performance.



INTERPRETATION OF RESULTS

In the cohort studied, (n=103), SUI is shown to be more common during training (38%) and competition (28%) than in the background population (25%). A notable number of athletes, who suffered SUI, reduced their level of hydration. This can have a detrimental effect on performance, ranging from 7-60% (Maughan 2010), on both cognitive and physical performance.

Although the sample size for each sport is small and some sports report no symptoms of SUI, the results from this study suggest that SUI is a significant problem, especially when competing at an elite level. Our study corroborates previous literature that high impact sports such as netball and hockey have higher incidence of SUI along with weightlifting that is associated with supra-physiological intra-abdominal pressures. We have also shown new data suggesting SUI may be higher in gymnastics and diving. This is likely to be due to these athletes having more elastic connective tissues and joint hypermobility.

SUI is more of an issue during training than in competition. This is most likely a consequence of the duration, heavier loads and intensity the body is exposed to during training compared to competition.

CONCLUSIONS

Due to the diversity of sports, the numbers in this study are too small for statistical analysis, however this pilot and feasibility study demonstrates SUI is more common in elite athletes than the general population. Sporting apparel does not offer adequate protection and thus, because of SUI symptoms, some athletes restrict their hydration levels which may affect performance. This is paramount as in elite sports very small margins can mean the difference between success and failure.

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25 - THE USE OF BIOMARKERS IN THE MANAGEMENT OF OVERACTIVE BLADDER IN FEMALE PATIENTS. A SYSTEMATIC REVIEW.

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) is a clinical disorder of the lower urinaty tract characterized by urgency, frequency, with or without urinary incontinence, usually accompanied by nocturia in the absence of infection or other obvious pathology. Initial diagnosis and management is usually clinical and conservative, based on patient's symptoms and complaints. Sometimes, further investigation such as urodynamic studies is required in order to assess more complicated cases or those refractory to treatment, however this is invasive and resource consuming. Current literature has demonstrated that there are certain proteins in urine, including the nerve growth factor (NGF), the brain-derived nerve factor (BDNF), prostaglandin E2 (PE2), cytokines and others, of which, urinary concentrations in the patients with OAB appear to be different than the general population. Such substancescould serve as potential biomarkers for the diagnosis and therapeutic management of the patients with OAB. The purpose of this review is to assess the diagnostic value of NGF, BDNF, PE2, as potential biomarkers for use in women with OAB.

MATERIALS AND METHODS

Articles published in PubMed, Medline, Web of Science databases from inception till March 2018 with a reference to NGF, BDNF, PE2 and OAB in the title or abstract were included. Inclusion criteria were (1) OAB symptoms (urinary frequency, urgency, urge urinay incontinence (UUI), symptoms >3 months, (3) Refractory to conervative management, excluding drug therapy. Exclusion criteria were (1) infection, (2) bladder outlet obstruction, (3) post void residual >100 ml, (4) previous incontinence or prolapse operations, (5) neurologic disorders. All data were collected with MS EXCEL, the search results were merged in Covidence (systematic review software, Veritas Health Innovation, Melbourne, Australia), and the meta-analysis was conducted using RevMan 5.3 version (Review Manager (RevMan) [Computer program]. Version 5.3. Copenhagen: The Nordic Cochrane Centre, Cochrane Collaboration, 2014).

RESULTS

31 studies (27 observational case-control studies and 4 cohort studies) were included in this systematic review, with a total of more than 2,500 patients who had OAB symptoms and had undergone tests for the aforementioned urinary biomarkers. Nine studies were selected for further quantitative analysis according to our inclusion criteria: 746 women with OAB and 383 controls. The mean uNGF/Cr levels were 11.9±10.8 pg/mg and 3.8±2.4 pg/mg, respectively ($p<0.0001$). The cummulative data indicate that NGF and BDNF are observed at significantly higher levels in OAB patients and their response to treatment is also associated with improved clinical outcomes both in the short and in the long term.

INTERPRETATION OF RESULTS

Current studies suggest that the immunologic factor plays a role in the pathophysiology of OAB and variable inflammatory biomarkers could find a use in OAB management. Although there is data to support this hypothesis, there are still limitations, which include lack of randomisation in most studies and insufficient data on that the sensitivity and specificity of these biomarkers.

CONCLUSIONS

Urinary NGF and BDNF are relevant biomarkers that can be used in patients with OAB for initial diagnosis and study of the response to treatment. Further studies should be conducted in order to provide more robust data on association of certain title of these urinary biomarkers and management option in OAB patients.

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26 - THE IMPACT ON SEXUAL FUNCTION AND SEXUALITY IN BREAST CANCER SURVIVORS WITH VULVO VAGINAL ATROPHY

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INTRODUCTION AND AIM OF THE STUDY

Sexuality and intimacy within a relationship are essential parts of the quality of life of breast cancer patients; these aspects often slowly perish due to the long term effects of cancer and the relative antineoplastic treatments. This study aims to monitor sexual function, relationship status and general well-being in a sub-group of women with breast cancer diagnosis with vulvo-vaginal atrophy symptoms; more specifically, we looked to investigate the role of clinical and socio-anamnestic variables in such situations.

MATERIALS AND METHODS

The study included women with a history of breast cancer (mean age = 49.2; SD = 8.45) who attended the our Gynecology Clinic for vulvo-vaginal atrophy symptoms as a secondary effect of the treatment for their oncological condition. Women were included accordingly to the following criteria: 1) being at least 18 years old; 2) being native Italian language (or bilingual); 3) having at least a primary school education; 5) with a stable partner relationship for at least 6 months; 6) agreeing to voluntarily participating in the research via written informed consent.

Patients were asked to complete a self-report questionnaire in order to collect socio-demographic and clinical characteristics, followed by a battery of self-report measures.

The Dyadic Adjustment Scale (DAS) is a 32-item scale (range 0-136) that analyzes the dyadic adjustment and the quality of the couple relationship. The Female Sexual Function Index (FSFI) is a 19-item scale (range 2-36) that analyzes female sexual functioning and more specifically the frequency of sexual behaviors and the presence of difficulties in this area. The Short Form Health Survey (SF-12), a 12-item scale (range 0-100), provides a Physical Health index and a Mental Health index, which can be used as indicators of psychological well-being.

The data obtained were statistically analyzed using the IBM SPSS Statistics program, version 24. The questionnaire results were compared with normative values, using a Student's t-test. The predictive role of age, hormone therapy, iatrogenic menopause and psychological well-being on sexual functioning was investigated through block-wise multiple regression analysis. The significance level was set at 0.05.

RESULTS

In our study we included 57 consecutive women. Table 1 reports the demographic characteristics of our population. Time from diagnosis ranges from 10 to 153 months (mean 58.72, DS 15.71). In our population 77.2% (n=44) of patients underwent hormonal therapy (previously or ongoing). 66.7% (n=38) of patients declared iatrogenic menopause, 24.6% (n=14) spontaneous menopause and 8.8% (n=5) still had menstrual cycles. 52.6% of the population sample reported intense dyspareunia and/or vaginal dryness that prevented or jeopardized intercourse. The majority of patients (73.7%, n=42) declared not having received sufficient information regarding the adverse effects of antineoplastic treatments on sexual function from their physicians.

Table 1= population sample demographic characteristics

	N	%
Marital status = married, common-law, in a relationship	44	77,2%
Married	6	10,5%
Living with a partner	7	12,4%
Starting a relationship		
Educational level		
Primay school	*3*	*5,3%*
Secondary school	*32*	*56,1%*
Graduated	*22*	*38,6%*
Offspring		
Yes	*49*	*86,0%*
No	*8*	*14,0%*

Surgery = quadrantectomy, mastectomy, none		
Quadrantectomiy	*26*	*45,6%*
Mastectomy	*27*	*47,4%*
None	*4*	*7,0%*
Hormonal therapy		
Yes	*44*	*77,2%*
No	*13*	*22,8%*
Menstrual cycle		
Regular/Irregular	*5*	*8,8%*
Physiological Menopause	*14*	*24,6%*
Iathrogenical Menopause	*38*	*66,7%*
Dyspareunia/vaginal dryness		
Yes	*30*	*52,6%*
No	*27*	*47,4%*

As can be seen in table 2, the sample reports significantly different scores compared to the normative FSFI total scores (FSFI-TOT), to the DAS total scores and to the SF-12's mental health indexes (MCS) and physical health indexes (PCS).

Table 2 – mean, standard deviation, range of psychometric scales us and comparison with normative samples.

variable	mean	D.S.	Range (min-max)	Mean reference value	p-value
FSFI-TOT	15,46	10,45	2-34,5	26,93	p<0,0001
DAS-TOT	95,86	16,47	49-123	115,7	p<0,0001
PCS	44,79	9,21	29,12-62,74	50,11	p<0,0001
MCS	41,32	10,41	14,71-59,51	48,57	p<0,0001

77.2% (n=44) of patients scored an FSFI-TOT score inferior to the clinical cut-off indentified by the Italian validation (6). Inferior scores correspond to a decrease in the quality of sexual function.
Block-wise multiple linear regression analysis (R2=0,57; F=6,403; p<0,0001) underlined a statistically significant negative effect of age on sexual function using FSFI-TOT (β= -0,300; p=0,013), such that with increasing age a decrease in sexual function can be seen. Hormonal therapy proved a significant negative effect on sexual function (β=-0,295; p=0,019): in fact, patients undergoing hormonal therapy both previously and during the study scored significantly lower compared to patients not undergoing this treatment. Lastly, as for the Mental Health Index (MCS), a significantly positive effect on sexual function was reported (β=0,343; p=0,004), such that higher scores of such index corresponded to a better sexual function. No effect was seen for iatrogenic menopause.

CONCLUSIONS

The results of the present study suggest the importance of a multidisciplinary approach to the treatment of breast cancer patients; in order to improve their quality of life, integrating complementary interventions and different professional figures are necessary.

27 - *"COCHRANE INCONTINENCE": WHO IS CONTRIBUTING?*

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INTRODUCTION AND AIM OF THE STUDY:

Clinical decisions in evaluation and treatment rely on evidence provided by systematic reviews, including Cochrane Reviews. A 2011 study concluded that USA was the most contributing country to clinical studies used to build the Cochrane Library in all Medical specialties(1). When adjusted for the population size, the Scandinavian countries (Denmark, Finland, and Sweden) were the leading sites for clinical studies used in Cochrane Reviews (1).

"*Cochrane Incontinence*" is a group within Cochrane whose aim is to prepare, maintain and disseminate systematic reviews of the effectiveness of interventions for incontinence, including prevention, treatment and rehabilitation, concentrating on randomized controlled trials (2).

A survey targeting members of The International Urogynecological Association (IUGA) in 2017 revealed that there is great variability among geographic regions worldwide in the evaluation and treatment of pelvic organ prolapse and stress urinary incontinence (3). Such variability could be accounted for by the health care system resource capacity, and by demographic, social and cultural factors. Admittedly, all these play an integral role in the generation of evidence used in Systematic Reviews. In this study, we aim at verifying the country of origin of all references used in the *Cochrane Incontinence.*

MATERIALS AND METHODS

We looked through the reviews of the "*Cochrane Incontinence*" from inception to June 20, 2018. We excluded reviews that focused on male urology.

In order to study the contribution of different countries to the references included in these reviews, the country of affiliation of the corresponding author of each publication was noted. Each review contained references for articles that were included in the review, others that were excluded, and others that were under evaluation. For this study, only the articles included in the review were targeted.

The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental economic organisation founded in 1961 and currently englobing 35 member countries. OECD members are high-income economies with a very high Human Development Index (HDI) and Gross Domestic Product (GDP) and are regarded as "developed countries".

After deletion of all duplicates (articles used in more than one review), the publications were sorted depending on whether the affiliation of the corresponding author belonged to OECD or non-OECD countries.

RESULTS

As of 20th of June 2018, 77 "*Cochrane Incontinence*" reviews with a total of 1978 references met the inclusion criteria to be evaluated to determine the countries of affiliation of the corresponding authors. Publications used in references dated from 1964 to 2017.

A total of 50 countries were identified as the country of affiliation of the corresponding authors of the publications. 28 were OECD (out of all 35 OECD) countries, and 22 were non-OECD (out of 160 non-OECD) countries. Out of all publications used in the "*Cochrane Incontinence*", 84.9% had a corresponding author affiliated with OECD countries, compared to only 15.1% originating from non-OECD countries.

The USA took the lead as the country with the highest contribution (26%), followed respectively by the United Kingdom (17.2%), Italy (5.3%), Australia (4.7%) and The Netherlands (4.1%). These countries alone contributed to more than one half of the publications used in the "*Cochrane Incontinence*" (56%).

Out of the countries that make up the first quartile of countries of affiliation of the corresponding authors, only Brazil (ranking number 6) and China (ranking number 11) were from the non-OECD countries.

When adjusted to the population size, Norway, Denmark and Finland were the most significant contributors to the "*Cochrane Incontinence*" (Table 2). Out of the top 10 contributor countries, adjusted for population size, only one was a non-European country: Australia, ranking number 7 (Table 2). All of the top 10 countries belonged to the OECD group. The USA ranked at number 16 out of the 50 countries which contributed to the "*Cochrane Incontinence"* with a contribution of 1.59 publications per million inhabitants.

INTERPRETATION OF RESULTS

Country	Number of publications
USA	517
UK	341
Italy	104
Australia	93
Netherlands	81
Brazil	76
Canada	59
Sweden	57
Norway	56
Germany	54

Table 1- Top 10 countries with the highest number of publications to the Cochrane Incontinence

Country	Number of publications adjusted to population size (per million)
Norway	10.79
Denmark	6.8
Finland	6.01
Sweden	5.76
UK	5.2
Netherlands	4.76
Australia	3.85
Austria	3.09
Ireland	2.93
Switzerland	2.03

Table 2 - Top 10 countries with the highest number of publications to the Cochrane Incontinence adjusted to population size (per million)

There is an uneven participation of OECD and non-OECD countries in clinical trials used to produce evidence. Furthermore, the contribution of individual countries within OECD is not commensurate with its population size or gross domestic product.

The reasons and the dynamics behind the low contribution of non-OECD countries to clinical trials are not fully understood. Such reasons are not necessarily the same in different countries, and are not always tied to economic indices. A better understanding would help create strategies to enhance good quality research from these countries, where the burden of female pelvic floor disorders is probably the highest.

CONCLUSIONS

Non-OECD countries are significantly under-represented in evidence based research used in the "*Cochrane incontinence*" compared to OECD countries. The shortage of resources needed to conduct clinical trials in less advantaged countries could be overcome by international collaboration in research. This is especially important in the field of Female Pelvic Medicine and Reconstructive Surgery where the prevalence, burden, and treatment options of conditions may not be comparable across the globe.

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28 - PROTEOMIC PROFILE OF THE URINARY BLADDER IN OAB PATIENTS - PRELIMINARY STUDY

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder syndrome (OAB) is defined by IUGA/ICS as urinary urgency, usually accompanied by frequency and nocturia, with or without urgency urinary incontinence, in the absence of urinary tract infection (UTI) or other obvious pathology [1]. The pathophysiology of OAB and DO is not well understood. However, recent genetic studies gave a new insight on genes' expression involvement. Several genes were found to be either over- or underexpressed in OAB. The use of microarray as a means of elucidating gene changes involved in development of urgency was a milestone in detecting whole genome changes related to this condition. Platelet Derived Growth Factor (PDGF), Microfibrillary-Associated Protein, Vascular Cell Adhesion Molecule-1 (VCAM-1) and tropomyosin may be important in regulating structural integrity of bladder and supporting tissues [2, 3]. The aim of this study was to analyse the urinary proteomic pattern in patients suffering from OAB symptoms and to establish quantitive and qualitative protein profile for OAB which may be supportive to define the mechanism of the OAB pathophysiology.

MATERIALS AND METHODS

Sixteen Caucasian women aged 32-78 were included to the study. Patients were divided into 2 groups: OAB group (n=8) and control group (n=8). All patients signed informed consent and agreed to the use of these data for scientific purposes. The Local Ethics Committee approved the study protocol. Sample of the urine (40mL) was collected using the 14 Fr sterile catheter and immediately preserved in the bacteriostatic factor (sodium azide) and protease inhibitor (Pefabloc, Sigma-Aldrich) mixture and frozen in -80^{0}C. All samples (n=16) were prepared according to iTRAQ (Applied Biosystems) manual. 40µg of the protein was taken from each sample and digested with the trypsin (Promega). Samples were labelled and analysed in the QExactive (Thermo) spectrophotometer conjugated with the high efficiency liquid chromatograph (nanoACQUITY UPLC) twice (ExpOABK_01 and ExpOABK_02). Acquired data was analysed using the Mascot engine towards the SWISS-PROT protein database, limited to the *Homo Sapiens* taxonomy. After the data arrangement, it was searched again using the DECOY database. Statistical analysis was performed using Diffprot software. For demographic analysis Statistica 12.0 PL was used.

RESULTS

There were no statistically significant differences in demographic data between control and OAB groups in terms of age (62.0 vs 57.38, p=0.08, respectively), body mass index (25.23 vs 24.06 p=0.69, respectively) and parity 1,5 vs 1.9 p=0.44, respectively). Qualitative proteins, which significantly differed between two group in experiment 1 (ExpOABK_01) and experiment 2 (ExpOABK_02) are presented in table 1. Vascular cell adhesion molecule 1 was the only protein found to have qvalue <0.05 in both experiments.

Table 1. Qualitative results of the differential proteins in OAB vs control group

No	**ExpOABK_01**			**ExpOABK_02**		
	Protein	**qvalue**	**description**	**Protein**	**qvalue**	**description**
1	P25311	0,0002	Zinc-alpha-2-glycoprotein	P98160	0,00018	Basement membrane-specific heparan sulfate proteoglycan core protein
2	P12830	0,0002	Cadherin-1	Q9HCU0	0,00018	Endosialin
3	P06396	0,0002	Gelsolin	P02787	0,00018	Serotransferrin
4	P02760	0,0009	Protein AMBP	P00738	0,00018	Haptoglobin
5	P41222	0,00391	Prostaglandin-H2 D-isomerase	P01023	0,00029	Alpha-2-macroglobulin
6	P08246	0,00397	Neutrophil elastase	P20742		Pregnancy zone protein
7	Q9Y279	0,00465	V-set and immunoglobulin domain-containing protein 4	P01834	0,00172	Immunoglobulin kappa constant

8	P19320	0,00723	**Vascular cell adhesion molecule 1**	P0DOX7		Immunoglobulin kappa light chain
9	P0DOY2	0,00775	Immunoglobulin lambda constant 2	P06870	0,00652	Kallikrein-1
	A0M8Q6		Immunoglobulin lambda constant 7	P05155	0,00704	Plasma protease C1 inhibitor
	B9A064		Immunoglobulin lambda-like polypeptide 5	P19320	0,02104	**Vascular cell adhesion molecule 1**
	P0DOX8		Immunoglobulin lambda-1 light chain			

INTERPRETATION OF RESULTS

Vascular cell adhesion molecule 1 was the only protein that reached statistical significance, as differentiating protein, in both experiments assessing the proteomic constitution in OAB patients. Interestingly, our outcome is consistent with the results published by Corcoran AT. et al. where VCAM-1 was found to be the most possibly indicative cytokine for painful bladder syndrome (PBS) [3]. PBS and OAB are different conditions, however, escalation in urothelium vascularity is observed in both ailments. VCAM-1 protein mediates the adhesion of the inflammatory cells to the endothelium and is responsible for the leukocyte-endothelial cell signal transduction, thus may play an important role in the urothelium pathology involving changes in cell to cell integrity and damaging of urothelial barrier function due to inflammatory processes.

CONCLUSIONS

Our preliminary results suggest that there are some significant differences of proteome between OAB patients and healthy subjects. Studies on the larger group of patients, may provide further information on the urinary bladder proteomics, which potentially might be supportive for the novel diagnosis and treatment options.

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29 - UREIDOPYRIMIDINONE-POLYCARBONATE ELECTROSPUN AND LIGHT WEIGHT POLYPROPYLENE MESHES MAY INDUCE MUSCLE ATROPHY AND INTRAMUSCULAR FAT INFILTRATION IN THE ABDOMINAL WALL HERNIA REPAIR IN RABBITS

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INTRODUCTION AND AIM OF THE STUDY

The overall lifetime risk for primary surgery for stress urinary incontinence or pelvic floor prolapse is 20% by the age of 80 years [1]. The most frequently used implants for surgical treatment are textile in nature and made from polypropylene. Despite the use of ultralight-weight meshes, graft related complications remains a problem. Chronic inflammatory reaction of durable materials is one of the presumed causative factors. Next to local wound healing problems, non-compliant implants may also induce stress shielding[2]. Polycarbonate (PC) is an aliphatic polyester used to produce degradable biomaterials. It has the advantage of being elastomeric, biodegradable and being biocompatible. PC degrades slower than the other polyesters. They can be used to electrospin implants, which have a more extra-cellular matrix structure, promoting cell ingrowth. We aimed to determine the *in vivo* degradation and functional outcome following the creation of an abdominal wall defect, which was either substituted by a mesh, or was primary closed and reinforced by mesh. The reference material was an ultra-lightweight with high pore stability PP mesh.

MATERIALS AND METHODS

Twenty four New-Zealand rabbits were implanted with electrospun (UPy-PC; n=12) or textile ultra-lightweight polypropylene (Restorelle, PP; n=12), to either reinforce a primary fascial defect repair (referred to as “reinforcement”) or to cover a full thickness abdominal wall defect (as in incisional or groin hernia; overlaying being referred to as “gap bridging”). Rabbits were harvested at 30, 90 and 180 days. Explants were divided for uniaxial biomechanical testing and histology. Slides were semi-quantitatively assessed for musculofascial content (Masson’s Trichrome), presence of foreign body giant cells (FBGC; H&E), macrophages (CD68) and neovascularization (CD34).

RESULTS

No local complications (exposure, infection, fluid collection) were observed. In one third of the gap bridged defects there was mild subclinical herniation in the UPy-PC group. When used as a reinforcement lightweight PP did not compromise the abdominal wall compliance at any time-point. Conversely, UPy-PC explants were stiffer than native tissue in the comfort zone at 30 and 180 days and stiffer than PP at 30 days only (Figure 1A). UPy-PC meshes induced a more vigorous foreign body reaction than PP at all time points. The infiltration of macrophages across the implant area was significantly higher in the UPy-PC explants at 30 days in both models than PP. The amount of musculofascial tissue tended to be lower in the PP explants, yet this was only significant for the fascia at 30 and 90 days in the reinforcement model and at 180 days in the gap bridging model (Figure 1 B). We observed progressively more signs of muscle atrophy and intramuscular fatty infiltration in both mesh types.

INTERPRETATION OF RESULTS

We used a degradable electrospun matrix UPy-PC,which is degraded by oxidation[3]. Degradation was associated with an abundant presence of macrophages and FBGC in the UPy-PC explants, yet without visible local side effects. However, after resorption there

were local sub-clinical signs of bulge. Lightweight PP implants were as compliant as native tissue. Biomechanical properties were acceptable for both materials on the long term. However, both materials showed mid- and long term volume loss of muscle and fascial fat infiltration as observed *by morphometric analysis* on *Masson's trichrome* staining. One explanation is that this is a maladaptive remodelling response induced by mesh stiffness, already described as stress shielding.

CONCLUSIONS

UPy-PC implants are replaced by connective tissue that is not stiff enough to prevent abdominal wall herniation in one thirds of the overlaid abdominal wall defects. These UPy-PC explants where subclinical herniation show similar compliance as the ones without. Light weight PP explants had a long term physiologic compliance. Explants showed signs of muscle atrophy with intramuscular fatty infiltration.

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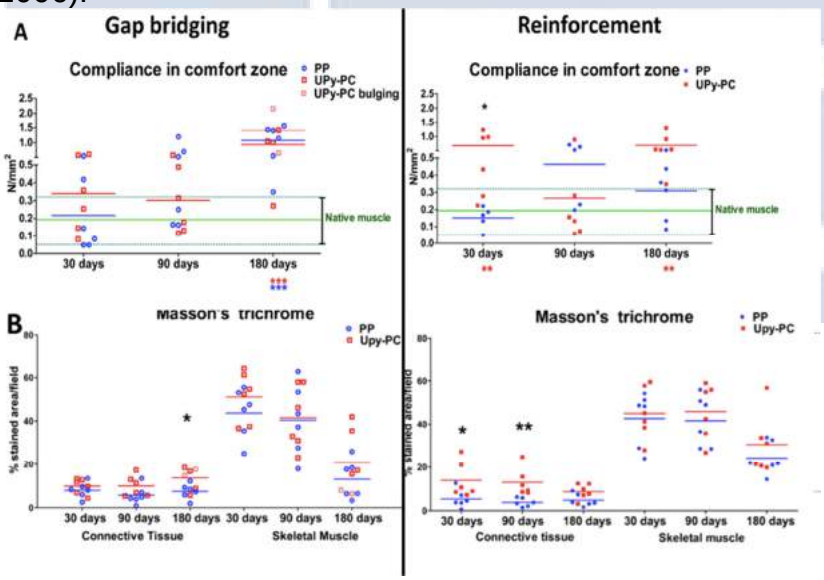

Figure 1 – A) Biomechanical analysis. Individual observations of Compliance in comfort zone and in stress zone of the abdominal wall of rabbit after implantation of polypropylene (PP, blue) or UPy-PC (red) in a gap bridging (left) and reinforcement (right) hernia model. The horizontal green dotted line represent the range stiffness of native tissue. B) Masson´s Trichrome staining of the abdominal wall of rabbits after implantation of polypropylene and electrospun UPy-PC at 30, 90 and 180 days. Mild signs of muscle atrophy and intramuscular fatty infiltration starts at 30 days and become more intense at 90 days and 180 days in both groups Polypropylene explants showed a significant loss of connective tissue compared to UPy-PC at 180 days in the gap bridging model (B, left) and at 30 and 90 days in the reinforcement model. * p≤0.05, **p≤0.01,***p≤0.001.Herniated samples are marked by lighter colour (pink).

30 - PREVALENCE OF PELVIC PAIN IN WOMAN CANDIDATES TO PELVIC ORGAN PROLAPSE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

Evidence suggests that there might be a correlation between pelvic organ prolapse surgery and post-operative pelvic pain (1). Pudendal nerve is the major nerve supplying sensory innervation of the pelvis and genital tract. Many symptoms as pelvic pain and dyspareunia are associated with pudendal neuropathy, therefore pudendal nerve block has been widely adopted for treatment of pelvic diseases following prolapse surgery (2) (3). However, pelvic organ prolapse (POP) might be itself one of the causes of pudendal nerve stretching resulting in pelvic pain and genital discomfort. Obturator internus muscle or Alcock's canal, vescical trigone and ischial spines are trigger points of the pudendal nerve (4). This disorder might be under-rated in preoperative management. Our study is the first to evaluate the prevalence of pelvic pain and positive trigger points for pudendal neuropathy during vaginal examination in women undergoing prolapse surgery.

MATERIAL AND METHODS

We recruited 67 consecutive women waiting for vaginal hysterectomy and anterior and/or posterior vaginal wall repair for POP equal or above II degree according to POP-Q system. They were all prospectively evaluated but retrospectively reviewed.

All women were visited in our outpatient clinic pre-operatively. Spontaneous pelvic pain and dyspareunia were investigated during clinical history collection. Positive trigger points for pudendal neuropathy (obturator internus muscle, vescical trigone and ischial spines) were investigated at gynecological examination. We classified patients in two categories: presence of pain symptoms (Group 1) and absence of pain symptoms (Group 2) i.e. negative or positive trigger points. For each category we calculated the mean of prolapse degree.

RESULTS

Groups	Number and percentage of patients for group	Mean of prolapse degree
Symptomatic	30 patients (44,77%)	2,8
Asymptomatic with negative trigger points	30 patients (44,77%)	2,8
Asymptomatic with positive trigger points	7 patients (10,44%)	2,6

Thirty patients (Group 1) had pain symptoms (44,77%) and 37 patients (Group 2) had no pain symptoms (55,23%) at the clinical history collection. At the gynecological evaluation in Group 1, 5 patients had positive trigger points for pudendal neuropathy (7,4%), while in Group 2, 30 patients had negative trigger points for pudendal neuropathy (44,77%), and 7 patients had at least one positive trigger point for pudendal neuropathy (10,44%). The mean of prolapse degree was 2,8 for Group 1, 2,8 for asymptomatic with negative trigger points patients and 2,6 for asymptomatic with positive trigger points patients.

INTERPRETATION OF RESULTS

An unexpected physical examination finding of tenderness suggestive for pudendal neuropathy was found in 10.4% of patients (18,9% of Group 2). Asymptomatic with positive trigger points patients had a mean of prolapse severity degree of 2,6, similar to the other 2 groups (2,8).

CONCLUSIONS

Gynecologists should be aware of pelvic organ prolapse being an important cause of pelvic pain pre-existing surgical procedures in order to achieve accurate pre-operatory counselling. Trigger point evaluation should always be part of a gynecological examination to identify pudendal neuropathy, especially in asymptomatic patients. Our sample wasn't enough extended and further studies are needed to evaluate post-operative symptoms in order to clarify whether prolapse surgery could have an impact on pelvic pain symptoms related to pudendal neuropathy.

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31 - CORRELATION BETWEEN 2/3D TRANSPERINEAL ULTRASOUND AND PELVIC FLOOR DYSFUNCTION ONE YEAR AFTER DELIVERY: PROSPECTIVE OBSERVATIONAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Childbirth is an important event in a woman's life. Vaginal childbirth is the most common mode of delivery and it has been associated with increased incidence of pelvic floor disorders later in life.
Three-dimensional (3D) transperineal ultrasound has been shown to be a reliable and reproducible method for visualization of morphological changes in the female levator ani muscle. A review of the literature has revealed that 13–36% of women undergoing their first vaginal delivery sustain levator avulsion, being almost absent in nulliparae[1]. Recent report on ultrasound in primiparous women describe a 33% incidence of LAM ballooning and 29% of LAM avulsion 12 month after delivery [2]. Data on the correlation between symptoms and ultrasound findings after delivery are sparse and sometimes inconsistent.
We aimed at defining the prevalence of detectable 2/3D-US abnormalities and compare them with symptoms one year after delivery in a population of puerperae symptomatic for PFDs 3 month postpartum.

MATERIALS AND METHODS

This prospective observational cohort study on PFDs focused on 2/3D-US and symptom assessment 12 months after delivery in a subset of women symptomatic for PFDs 3 months postpartum.
All women ≥ 32 weeks gestational age who delivered between July and December 2014 in an Italian Tertiary Referral Maternity Hospital were invited to a Pelvic Floor Clinic (PFC) follow-up 3 month after delivery. 685 puerperae out of 1293 eligible women actually attended the PFC 3 month after delivery. Among them we had 19.1% of operative vaginal deliveries by Vacuum extraction (no forceps adoption) and a Caesarean Section rate of 21.3%. 34,7% of puerperae complained of pelvic floor symptoms according to the criteria reported in table 1.

Table 1:Selection criteria for PFDs 3 and 12 months after delivery[3]

PFDs	Measurement tool	Cut off
Urinary incontinence (UI)	ICI-Q SF	≥ 1
Anal Incontinence (AI)	Wexner score	≥1solid/liquid &/or ≥2 gas
Prolapse	POP q staging criteria	≥ 2
Pain/Dyspareunia	Pain &/or dyspareunia VAS	> 0
Perineal Testing	Oxford score (0-5)	≤ 2

Quality of Life (QoL) was also assessed with validated questionnaires (IQOL for UI, F-IQOL for AI and FSFI for Dyspareunia). As part of the prospective observational study all the 238 women symptomatic 3 months after delivery were invited for a 12 month postnatal PFC follow-up and assessed adopting the abovementioned criteria. At that time 2/3D-US scan was also performed according to the methodology described in the literature[2] and the following parameter were measured: Bladder Neck (BN) Hypermobility, Recto-Vaginal Septum Defect (RVSD), Levator Ani Muscle (LAM) ballooning, LAM Avulsion.
A specifically designed database was adopted and descriptive statistical analysis performed. Software Stata 9.0 was adopted (Stata Corporation, College Station, Texas, USA) and a p value < 0.05 was considered for significance.

RESULTS

139 puerperae actually attended the 12 month postnatal PFC (comparable to those who missed it for demography, obstetrical parameters and symptoms severity 3 month postpartum – Fisher's exact test or Sum-rank test *p> 0.05*). In 9 cases (6.5%) 2/3D-US scan was not performed (missing data). Data on pelvic floor Ultrasound one year after delivery are therefore available for 130 women symptomatic for PFDs 3 months postpartum. At 12 months assessment 65 women were asymptomatic. Positive findings at 2/3D-US scan were observed in 59/130 (45.4%) women. In table 2 the correlation of at least one 2/3D-US finding with the presence of PFDs symptoms or more than one symptom are tested.

Table 2.: At least one 2/3D-US finding 12 months after delivery compared with the presence of PFDs symptoms or more than one PFDs symptom.

At least one 2/3D-US finding	PFDs Symptoms		>1 PFDs Symptom	
	N (%)	*Value of p* *	*N (%)*	*Value of p* *
	Yes		Yes	

Yes (n° =59) No (n° = 71)	39/59 (66.1) 30/71 (42.3)	*p=0.005*	20/39 (51.3) 11/30 (36.7)	*p=0.167*

**Fisher's exact test*

In table 3 the prevalence of different 2/3D-US scan findings is reported. In the same table each us 2/3D-US abnormality is compared with the presence of at least one symptom and more than one symptom.

Table 3.: Prevalence of 2/3D-US findings 12 months after delivery and correlation with PFDs symptoms or more than one PFDs symptom

2/3D-US 130 women (%)	**PFDs Symptoms**		***>1 PFDs Symptom***	
	N (%)	***Value of p ****	***N (%)***	***Value of p ****
BN Hypermobility Yes n° = 31 (23.8)	21/31 (67.7) 48/99 (48.5)	*p=0.047*	11/21 (52.4) 20/48 (41.7)	*p=0.287*
RVSD Yes n° = 17 (13.1)	12/17 (70.6) 57/113 (50.4)	*p=0.097*	8/12 (66.6) 23/57 (40.4)	*p=0.089*
LAM Ballooning Yes n° =43 (33.1)	31/43 (72.1) 38/87 (43.7)	*p=0.002*	15/31 (48.4) 16/38(42.1)	*p =0.390*
LAM Avulsion Yes n° =11 (8.5)	7/11 (63.6) 62/119 (52.1)	*p=0.341*	5/7(71.4) 26/62 (41.9)	*p=0.139*

**Fisher's exact test*

Despite a clear correlation between the presence of symptoms and pathological findings at ultrasound, QoL assessment was statistically not different (Sum-rank test p>0.05) irrespective from the observed alterations at 2/3D-US.

INTERPRETATION OF RESULTS

In women symptomatic for PDFs 3 month after delivery, pelvic floor morphological abnormalities can be detected at 2/3D-US one year after delivery in 45.4% of cases. This finding highly correlates with the persistence of symptoms. In our study LAM ballooning is the most frequently observed 2/3D-US finding and together with BN Hypermobility they are significantly associated with the persistence of symptoms. Contrary on what reported in the literature we observed a low rate of LAM Avulsion (8.5%). After checking for methodological bias we are wondering whether differences in obstetrical management in our setting could explain this discrepancy.

CONCLUSIONS

We confirm that 2/3D-US pathological findings are strongly associated with PFDs one year after delivery. In our series LAM Avulsion is scarcely reported and we are wondering whether this might be the result of differences in obstetrical management. Further studies are needed to determine the clinical relevance of 2/3D-US in the management of postpartum PFDs.

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32 - THE EFFECTS OF CO2 ABLATIVE LASER TREATMENT IN PREMENOPAUSAL PATIENTS WITH VULVOVAGINAL ATROPHY (VVA) AND URINARY INCONTINENCE.

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INTRODUCTION AND AIM OF THE STUDY

Vulvovaginal atrophy (VVA) occurs not only in perimenopausal females, but very often is the problem in young women under 45 years. There are many reasons leading to the lack of estrogens in this period of life. Hypoestrogenic state concerns young women during and after treatment of not only onocological diseases but also endometriosis or myomas. Some group of patients suffer from vaginal atrophy during long usage of contraceptives. Immunological diseases like lichen, Sjogren's syndrome or premature ovarian failure (POF) can additional cause vaginal and vulvar atrophy. Also breastfeeding woman have high levels of prolactin that exert an antagonistic action on estrogen production.The most common symptom noticed by patients is vaginal dryness, which is often accompanied by itching, burning, dyspareunia, and urinary tract-related symptoms such as urinary incontinence. Stress incontinence is more common in pregnancy, with 28% of women although, 12% remained symptomatic following delivery. The prevalence of bothersome urinary incontinence is greater after vaginal delivery than cesarean section but can be found in both groups of patients which can be conneceted with vaginal atrophy. [1] There are multiple papers confirming the regenerative properties of the CO_2 laser, proven not only in dermatological patients but also gynaecological ones. Due to the optimal formation of the laser pulse, it can penetrate the surface of the vaginal wall and trigger the regenerative changes in collagen-based structures leading to, despite the mucosa rejuvenation, also the connective tissue reconstruction seen as an increased elasticity and flexibility . [2,3]
The aim of the study is to evaluate the effectiveness of CO_2 fractional laser therapy of VVA in young woman.

MATERIALS AND METHODS

The inclusion criteria for the study were: age of the patient beneath 45 years, at least one of the following urogenital symptoms reported by the patient during a medical appointment and confirmed later by a doctor in a medical examination: dryness, itching, burning, dyspareunia, urinary incontinence. Additionally, the prolapse of the vaginal wall and vaginal diameter were being assessed during initial appointment.The exclusion criteria were: POP-Q equal or greater than 2, BMI above 35, pathological pap smear result, active inflammation within perineum and/or vagina, pathological findings within genitalia discovered in either bimanual examination or ultrasound (pathological endometrium thickness, ovarian masses etc), a history of vaginal surgery, neurological diseases, diagnosed with neuropathy. We also excluded patients who were being treated with photo-allergic inducing drugs, psychotics, under hormonal treatment (oestrogens either local or general), who were taking urological drugs used in UI or lubricants (up to 30 days prior procedure).A detailed questionnaire regarding the patient's history (including obstetrical past history, prior surgeries, drugs and medications was being filled in by the patient before qualification visit. Before each visit patient filled in a symptom assessment form presented to her as a 10 stages visual analogue scale (VAS) with 0 as a no symptom occurrence and 10 - maximal discomfort resulting from the presence of each symptom.Each patient was thoroughly examined before being qualified for the CO2 laser procedure. The examination protocol consisted of: 1.colposcopy with 5 Vaginal Health Index Score (VHIS) parameter assessment to objectify the vaginal atrophy stage: elasticity, fluid volume, pH, epithelial integrity, moisture, 2. pap smear and vaginal culture swab, 3.bimanual gynaecological examination, 4. transvaginal ultrasound, 5.POPQ scale rating of the prolapse. The type of the UI and its severity has been assessed based on the medical history and International Consultation on Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-UI SF) with the inclusion of the findings from the gynaecological examination performed in the lithotomy position.
Patients underwent 3 CO2 laser procedures - each 4-6 weeks after previous one - performed with the SmartXide 2V2LR fractional microablative CO2 laser system (Mona Lisa Touch; Deka, Florence, Italy). Check up visits were set 6 weeks after the 3rd procedure.
Every patient has been informed about the technique and all the steps of the procedure. An information about potential complications was also presented to each of the patients. All patients gave an informed written concern prior to the procedure. The study was conducted in accordance with the Declaration of Helsinki.
Statistical analysis :None of the tested parameters has the normal distribution (confirmed with Shapiro-Wilk normality test; for all variables $p<0.001$).Groups were compared with nonparametric Kruskal-Wallis rank sum test with p being statistically significant. The correlation was checked with Spearman's rank correlation coefficient.

RESULTS

72 patients were accepted into the study. The average age of the patients was 38,29 (3,81). 44.4% of patients had a history of 2 pregnancies and 2 deliveries. 66,6% of the patients delivered their babies via

vaginal delivery, most commonly they had 2 natural deliveries. There was a statistically significant improvement noted within all tested symptoms 6 weeks after the 3rd procedure. An adequate improvement was proven in colposcope test (VHIS). The greatest improvement in VAS scale was seen in vaginal laxity -2,25 (SD -1,83), the smallest for dyspareunia1,22 (SD -2,46). In most tested parameters there was no statistically significant correlation between improvement and patients age nor number of deliveries, number of natural deliveries vs operational, mean child weight, stage of prolapse. The older the patient is the smallest the improvement in urge incontinence and painfull intercourses. The improvement rate within urinary incontinence and urge incontinence had no statistical correlation with the grade of the prolapse.
We had no post procedural complication, nor negative outcome after our laser treatment. The treatment itself was painless and patients tolerated it well.

INTERPRETATION OF RESULTS

The obtained results indicate a significant effectiveness of laser treatments performed in accordance with the established technique and specialized approach according to the laser beam parameters which were being set individually after careful qualification. Low invasiveness of the laser procedure, no side effects and no post-op complications or patient's discomfort make it a good candidate for the next effective treatment of not only VVA but also UI with no or mild prolapse, improving significantly patient's quality of life.

CONCLUSIONS

Our study proves that the CO2 fractional laser therapy can not only decrease the severity of the vulvovaginal atrophy symptoms such as dryness, laxity, itching, burning, dyspareunia, mild prolapse but we can also treat stress urinary incontinence and urge incontinence symptoms.

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33 - VAGINAL MESH PROCEDURE? IS YOUR MESH CAUSING YOU PAIN?

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse and urinary incontinence cause significant morbidity for women. Over time a variety of surgical interventions have been undertaken for definitive management of these problems. Synthetic mesh use in other surgical specialities over the past two decades has been extensive; their use as adjuncts to improve surgical intervention therefore became commonplace within Urogynaecology. However, synthetic material implants have been associated with additional patient morbidity and known complications.

More than 100,000 transvaginal mesh lawsuits have been filed in the United States resulting in significant value pay-outs amongst a number of companies. For example, Endo/American Medical Systems agreed settlements in the region of $2.6 billion for groups of cases arising between 2014 and 2017. Media coverage of this has subsequently drawn global attention to mesh-associated problems and potential financial gain from litigation. Subsequent to this, local Urogynaecology and chronic pain clinics anecdotally appeared to have increasing numbers of women presenting with new onset pain post mesh procedure. Further investigation was hence required.

MATERIALS AND METHODS

A retrospective review of new patient referrals amongst three Urogynaecology clinics over six months (November 2017-April 2018) in a large District General Hospital in the UK were reviewed and compared to the same time-period one year previously (November 2016 – April 2017). Patients presenting with pain after vaginal mesh placement were recorded. Patients seen in the Chronic Pain clinic for pelvic pain with a vaginal mesh were noted and cross-referenced for attendance in Urogynaecology clinic with an identical presenting complaint.

RESULTS

In total twenty cases of pain associated with previous mesh placement were identified in 2017-2018. However, only one case was identified in the previous study period.

Table 1: Total number of new referrals and percentage of new referrals presenting with pain after presumed mesh placement

Year	Total no. of new referrals	No. of presentations with pain after mesh	% of referrals with pain after mesh
2016-2017	229	1	0.44%
2017-2018	298	20	6.71%

Table 2: Number of symptomatic patients and type of mesh placed

Type of mesh	No. of patients
TOT	15
Anterior/posterior	2
Other	1
None	2

Table 3: Time from mesh placement to presentation

Time from mesh insertion	No. of patients
Up to 1 year	0
1-5 years	2
6-10 years	5
>10 years	5

INTERPRETATION OF RESULTS

In our cohort, despite the 20-fold increase of cases presenting to outpatient clinics, no significant mesh pathology was identified within the patients reviewed, and in fact 2 patients had never received mesh as part of their original surgery. This highlights the difficulty in associating patients' reported pain symptoms to specific pathology and the need for careful systematic review of patient, history and previous surgical notes.

Three of the six patients identified from Chronic Pain Clinic were seen solely in this setting on the basis that their pain and incontinence were managed adequately thus the patients were not seeking mesh removal. Arguably, mesh associated problems should be ruled out amongst this population after review by a Urogynaecologist. Review by an alternative clinician could be arranged if the patient had concerns or had 'lost faith' in their original clinician.
The most efficient way to manage patients referred to secondary care with potential mesh problems would be by a collaborative multi-disciplinary team (MDT) review with a standardised management pathway to ensure a comprehensive assessment is achieved.
The expertise of a Pain Team (Consultants and Nurse Specialists) could fully explore pain symptoms, particularly in those patients who transpire to not have mesh in-situ.
Vaginal meshes are visible with Ultrasound and potentially with Magnetic Resonance Imaging (MRI); the latter modality is more useful for identifying areas of tissue inflammation and fibrosis associated with mesh. Hence Radiology could be utilised to corroborate clinical examination findings by the Urogynaecologist. Benefit of this could be to re-enforce for patients with negative examination findings that no pathology is identified. If there were positive clinical findings imaging can confirm evidence of pathology such as mesh erosion. Subsequently if excision of mesh is necessary, imaging could offer 'a road map for surgical exploration' as suggested by Khatri et al. (2016).

Extensive publications and media coverage in the UK of mesh-associated problems has drawn the attention of the general public to this issue often in a highly emotive manner. Additionally, the internet has been awash with litigation statements, blogs and discussions via specifically created social media support groups for women with mesh concerns or potential mesh problems, hence potentially creating a cohort of 'worried well.' This we can surmise is why the numbers of patients presenting to clinics has increased, and predicted that referral numbers will continue to increase over time.

CONCLUSIONS

It appears the media has had a significant impact on the numbers of women presenting with pain post mesh procedure. Unfortunately pain symptoms can be difficult to attribute directly to a source e.g. mesh. Reluctant patient interaction with Urogynaecology can create a cohort of patients unknown to the original Urogynaecologist but treated by other specialities. To avoid and overcome this situation thorough and collaborative review is required. Also, given the implications of litigation, a robust multi-disciplinary approach is needed. Hence we would recommend MDT participants should include specialist Radiologists, Pain Consultants, Pelvic floor Physiotherapists, designated Urogynaecology/Urological and Colorectal surgeons within a clinic. However, this may be hard to achieve on a local level, requiring tertiary centre set-up and referrals.

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34 - SUCCESSFUL OUTCOMES IN PERCUTANEOUS TIBIAL NERVE STIMULATION: A STUDY OF A NEW TREATMENT SERVICE.

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INTRODUCTION AND AIM OF THE STUDY

Percutaneous tibial nerve stimulation (PTNS) originates from acupuncture. It is a neuromodulation technique used to modify bladder function and facilitate storage (de Wall, *et al* 2017). This is a standardised treatment protocol as outlined in the National Instituite for Health and Care and Excellence (NICE 2010) recommendations.

This study was a prospective cohort study of a new Percutaneous Tibial Nerve Stimulation (PTNS) service introduced for the treatment of refractory overactive bladder symptoms in women. The service was organised to offer the treatment in an evening clinic with the ability to treat four patients each hour in a communal treatment setting. The intention is to provide a treatment session for chronic condition support networking and delivering treatment with financial benefits to the unit.

The data provides evidence of successful treatment outcomes for PTNS treatment in patients diagnosed with refractory OAB with or without urodynamic investigation. The financial benefit to the wider healthcare provision is identified with recognition for continued service provision with consideration to offering referral pathways for urology and continence services.

MATERIALS AND METHODS

Patients' were recruited over a 1 year period by the urogynaecology team acordgin to the assessment proforma.and discussed at the continence multidisciplinary team (MDT) meeting to confirm appropriate patient selection. Patients were accepted based on failed conservative management with refractory overactive bladder diagnosis, with or without urodynamic diagnosis, who were either not suitable for, or did not want, Botulinium toxin A therapy. Patients with pacemaker or implantation defibrillator, bleeding disorders, Neuropathy, and pregnant or planning pregnancy were excluded.

Once agreed patients were assessed by an Advanced Clinical Practitioner in a comprehensive office evaluation which included bladder diary and symptom assessment, Patients are assessed again for suitability for PTNS. Treatment commenced with 12 consecutive weekly appointments followed by patient symptom specific maintenance therapy as per guidelines..
Patients were assessed through quality of life (QoL) patient questionnaires (ICIQ-OAB validated questionnaire) in conjunction with follow up discussion. Patients were asked to complete this at the time of office evaluation or at the start of treatment. This was then completed at weeks 10 & 12 to compare QoL scores. On return for maintenance treatment the patients were asked to explain how their symptoms had affected them since having the last treatment and responses were used to determine the maintenance intervals. QoL questionnaires are continued throughout maintenance to inform continuing with current plan. The QoL scores were analysed with symptom resolve priority.

RESULTS

QoL scores overall were calculated and compared for improvements throughout treatment. Generally there was an average of 2 point improvements, yet did not account for change in priority of overriding symptom. The use of the ICIQ-OAB questionnaire includes how bothersome the symptoms are but these figures were not analysed for this piece.

While 35 patient cases were initially recruited, 32 completed the 12 week treatment. Out of them 7 (21.8%) patients chose not to continue with maintenance treatment; 4 patients (more than half) opted to precede with Botulinum toxin A injections in the bladder. These patients had not opted for Botulinum toxin A prior to PTNS because they had misunderstood the potential for intermittent self catheterisation (ISC) or perceived invasive intervention as a 'last resort'; 2 of the 7 drop out patients found the response to be the same as medication and, therefore, preferred not to interrupt their routine by attending an acute setting for treatment and 1 patient opted not to continue because her symptom of frequency had improved, although she was continuing to have small leaks and this does not interrupt her life. Her QoL score increased while her symptoms were more manageable.

A single patient has not yet returned due to their reporting a 50% improvement in symptoms since having PTNS therapy and not wanting to attend clinics for continued treatment. On contact, the patient understands she will be able to return when symptoms become unmanageable but would prefer to '*get on with her life*'.

A total of 35 patients started treatment with 32 completing and 7 opted not to continue with the treatment. The result being 78.2% continued PTNS management with improvement of symptoms without medication and 6.25% gained no benefit or improvement to symptoms. Of the 3 patients that did not complete the 12 weeks, 1 dropped out because she felt that the medication gave a better response; despite feeling it was ineffective prior to treatment. 2 patients had comorbidities preventing medication use, had oedematous ankles and with no response after 10 treatments an MDT discussion determined we were unable to offer any further treatment options.

INTERPRETATION OF RESULTS

This review has considered successful PTNS management as those who are continuing to attend, but, continued attendance and QoL alone cannot be perceived as evidence of OAB symptom improvement. For example, the initial priority for improvement in one patient was to reduce episodes of leaking. The ICIQ-OAB questions include, "*Do you have to rush to the toilet to urinate"* and *"Does urine leak before you get to the toilet"*. On initial completion of the questionnaire prior to treatment the score to *rushing to the toilet* was 1 with the score for *leaking before you get to the toilet* was 3. After 12 treatments consecutively, these scores were reversed and the priority of symptom improvement changed.

In gathering the data for this study a weakness is apparent in the lack of comprehensive history taking, discussion on expectations of treatment and ensuring all conservative treatments have been completed. The cohort is small and does not factor in prolapse symptoms which may impact symptoms.

CONCLUSIONS

PTNS has proven to be an effective treatment for refractory OAB in this cohort with a 78.2% symptom improvement with no medication; although maintenance treatments are still required. Further comparison of symptom severity and improvement in relation to QoL scoring may give a better insight into determining appropriateness or success of treatment and may even improve outcome figures. Patient expectations should be discussed, be realistic and be in context to patients' daily lives and the true impact of continence complaints.

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35 - SHOULD I OPERATE THIS WOMAN FROM HER PELVIC ORGAN PROLAPSE ? A PREOPERATIVE SCORE TO PREDICT WOMEN'S IMPROVEMENT AFTER SURGERY FOR PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Genital prolapse is frequent as it affects 30% of women (1). Treatment may consist in major surgery with a high complication rate of 26% (2) and it is estimated that 10% of the operated women do not consider themselves improved (3). The objective of this study was to identify preoperative predictive factors of women improvement after surgery for prolapse and to develop a predictive score.

MATERIALS AND METHODS

This is a secondary analysis of the randomized multicenter trial PROSPERE previously published, which compared the morbidity after prolapse surgery according to the vaginal or laparoscopy approach. Improved women (PGI-I score at 1 year = 1 (much better) or 2 (better)) were compared to unimproved women. 255 women were included to derive the prediction score based on multiple logistic regression. An internal validation by Bootstrap estimated the unbiased performance of the model.

RESULTS

Criterions independently related to improvement were: cystocele POP-Q stage > II (OR :2,93 95CI [1,22–7,04], p=0,015); woman expectation not related to improvement of sexual, urinary, digestive or painful symptoms (OR:2,57 95CI [1,07–6,04], p=0,031) and absence of chronic pelvic pain (OR=4,55 95CI [1,77 –11,46], p = 0,001). The ROC-AUC of the score (scored from 0 to 11) was 0.75 and a score strictly greater than 8 predicted 97% of improvement [92 - 99], with a specificity of 85% 95CI [68 - 94] and a positive likelihood ratio of 3.76 (IC 95% 1.51– 9.36). The ROC-AUC corrected for optimism by Bootstrap procedure was 0.70.

INTERPRETATION OF RESULTS

We founded that the women's improvement after surgery for prolapse is better when the cystocele is important (stage ≥ 2), when the expected benefit of the women regarded to the surgery is based on the improvement of the mechanical symptoms related to the prolapse and when they do not suffer from pre-operative chronic pain. These finding are consonant with the clinical impressions of the surgeons and what we founded in the literature.

CONCLUSIONS

We developed a simple score that could be used during the preoperative consultation to comfort the surgeon and the patient in the operative decision. Nevertheless, this score requires validation on an independent population to confirm its performances.

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36 - OBJECTIVE OUTCOME AFTER VAGINAL MESH WITH 6 POINT FIXATION AT 1 YEAR FOLLOW-UP

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INTRODUCTION AND AIM OF THE STUDY

Introduction

Pelvic organ prolapse (POP) is a major burden for the public health system affecting up to 20% of all women during their life (Walker and Gunasekera, 2011). There is heated debate about vaginal mesh surgery with companies withdrawing their kits from the market and whole countries banning vaginal meshes. Quite recently an ultra-lightweight mesh kit has been introduced into POP surgery that can be fixated with 6 arms.

Objective

The aim of this study was to describe the safety and anatomical results of a surgical approach with a single-incision 6 point fixation vaginal mesh for the treatment of pelvic organ prolapse at one year follow-up.

MATERIALS AND METHODS

This is a prospective observational study of patients who underwent operation with a transvaginal mesh (InGYNious ®, AMI Austria) between November 2014 and June 2016 in 6 urogynaecological centres. Ethical approval was granted by the local ethics committees. All patients presenting with stage II prolapse or higher (point Ba or C >-1 according to the international prolapse quantification system) were included in the study. A structured questionnaire and a clinical examination were performed preoperatively and after 12 months. Anatomical success was defined as < 0 (POPQ) for both anterior and apical compartments.

RESULTS

247 patients operated with the InGYNious system were available for the 12 months follow up. Intraoperative complications occurred rarely; 15 (6%) patients had haemorrhage of more than 200ml, 2 patients had intraoperative bladder lesions with none of them having issues at one year follow-up. Anatomical success at the latest follow up visit was 95%; for both the anterior and apical compartments. Mesh erosion rate was low with 1.6% (n=4). Reoperations were performed for postoperative hematoma (2%), prolapse recurrence in any compartment (3%), mesh revision (0.6%), and a ureteral stent (0.3%). 36% of the study population had preoperative incontinence; reoperation for postoperative SUI was only performed in 10% of all cases out of 237 patients without primary concomitant incontinence surgery. Quality of life increased significantly after one year.

INTERPRETATION OF RESULTS

This is the first study to report on the follow up of the InGYNious mesh and its anatomical and functional outcome. The objective cure rate was high with a concomitant high patient satisfaction rate. Mesh related problems were rare suggesting that this surgical technique can be an option for women requiring prolapse surgery.

CONCLUSIONS

InGYNious vaginal mesh could be an option for women requiring prolapse surgery.

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37 - VAGINAL CO2 LASER IN PATIENTS WITH URODYNAMIC STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Urinary stress incontinence (USI) is a common complaint among women, with an observed prevalence between 4% and 35% (1). The severity of the incontinence varies, and urodynamic stress incontinence is the gold standard of this condition, defined as a finding of involuntary leakage during filling cystometry, associated with increased intra-abdominal pressure, in the absence of a detrusor contraction.
The treatment of USI ranges from conservative treatment with pelvic floor exercises to surgical treatment, such as mid-urethral tapes or retro-pubic procedures. Although the outcome of the surgical procedures are well defined (2), most of the patients are reluctant to undergo surgical intervention to improve their quality of life and are looking for non-surgical options for treatment.

Vaginal laser has recently been introduced as an optional treatment for urinary stress incontinence. The limited studies that were published are lack of urodynamic assessment, and most of them demonstrated significant subjective improvement (3). The objective of this study was to assess the efficacy and safety of vaginal CO2 laser in women with urodynamic stress incontinence.

MATERIALS AND METHODS

This was a prospective multicenter study. The study protocol was approved by Helsinki committee in each institution, and every patient approved the study protocol by signing informed consent. Patients were eligible to participate if their main urinary incontinence complain was related to stress, had urodynamic stress incontinence and their severity of incontinence was graded as mild or moderate (by Sandvik score). Volunteers were excluded if they had previous anti incontinence surgery, if they had pelvic organ prolapse more than grade 2, or if their BMI was greater than 38. Five patients were excluded during urodynamic assessment due to lack of demonstration of stress incontinence. We used Femilift (Alma Laser, ISRAEL) for vaginal application of pixelated CO2 laser. Every patient had three sessions of vaginal laser treatment through the hole vagina without anesthesia, 4-5 weeks apart, and follow up at 3, 6 and 12 months since treatment began. We used 1-hour pad test (ICS protocol), questionnaires including PFDI-20, PFIQ, Patient Global Impression of Improvement (PGI-I) and a 3-day urinary diary. We present an interim analysis at 3 months follow-up.

RESULTS

We recruited 22 female patients with urodynamic proven stress incontinence, that completed follow-up for 3 months. Urodynamic assessment showed stable detrusor without voiding problem in all patients. The stress related leak was demonstrated either during coughs (mean CLPP=146.9) or Valsalva (mean VLPP=123.2). The patients' mean age was 52.5 (range: 35-73), 36.4% were menopausal, parity was 2.6 (0-4), 13.6% were smoking and their mean BMI was 27.9 (18.4-37.2). No serious adverse events were recorded. Minor side effects that were related to treatment included: transient vaginal secretion (4 patients), vaginal irritation (1 patients), transient fever (1 patient), and UTI (1 patient). The patients' 1 hour pad test, number of incontinence episodes, number of pads used and PGI-I are shown in table 1. Pad test showed significant weight reduction, while 81.8% had pad test lower than 2 gr. 81.8% (18 of 22) of the patients felt improvement (PGI-I) at 3 month following the treatment, and 54.5% (12 0f 22) defined it as a significant improvement. Reduction in the number of incontinence episodes and the number of pads used during follow-up did not reach significance.

INTERPRETATION OF RESULTS

This is the first study that evaluates the efficacy and safety of CO_2 laser in patients who complains on urinary stress incontinence with urodynamic diagnosis. Different subjective and objective outcome measures were used. This is an interim an interim analysis of 3 months followup, in a study that is designed for 1 year followup.

CONCLUSIONS

Vaginal CO2 laser was found a safe treatment for patients with urodynamic proven stress incontinence. Significant objective and subjective improvement were time dependent and 81.8% reported improvement at 3-month follow-up. The short-term efficacy is promising, however, long term follow-up is needed.

Table 1: Subjective and objective outcome measures of incontinence

	Baseline	1 month	2 month	3 month
1 hour pad test (gr)	9 (0-51)	5.27* (0-45)	4.59* (0-59)	4.22* (0-29)

Number of incontinence episodes / 3 days	5.2 (0-28)	3.9 (0-11)	3.04 (0-12)	2.59 (0-19)
Number of pads / 3 days	5.4 (0-28)	5.7 (0-33)	3.3 (0-14)	2.9 (0-13)
PGI-I (% improved)	-	10 (45%)	15 (68%)	18 (81.8%)

* paired t-test compared to baseline, $p<0.05$

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38 - IS EPI NO BIRTH TRAINER AN EFFECTIVE TOOL TO REDUCE PELVIC FLOOR INJURY AMONG PRIMIPAROUS WOMEN? FIRST ITALIAN PROSPECTIVE RANDOMIZED-CONTROLLED SINGLE-BLIND STUDY

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INTRODUCTION AND AIM OF THE STUDY

The motivation behind this Study is the growing interest surrounding the rights of women in labour and the consequent vaginal birth related maternal morbidities. In relationship to this topic, the Word Health Organisation (WHO) affirms the importance of a high quality obstetrical care-giving Birth. Moreover, it recommends a restricted use of episiotomy and suggests taking high degree perineal tears as quality indicators. Therefore, the need to research and develop new preventive strategies.
During the last decades a specific medical device EpiNo Birth Trainer (Tecsana GMBH, München, Germany) has been conceived. It is composed of a soft inflatable balloon that inserted into the vagina progressively strengthens and stretches the perineal muscles, with the intent to facilitate a natural birth and reduce the risk of perineal injuries.
This Randomized Controlled Trial (RCT) aims to evaluate the efficacy of EpiNo on pelvic floor injuries among primiparous women enrolled in a tertiary obstetric unit, where the recorded episiotomy rate performed is 80%.

MATERIALS AND METHODS

The Study has been conducted in one of the Italian Maternity Centre of reference, which welcomes over 6.000 babies a year. Between January 2017 and August 2017,104 Caucasian primiparous women with singleton uncomplicated pregnancies, a maternal age > 18 year and with a gestational Body Mass Index (BMI) < 30 have been recruited during their third trimester. 130 was the calculated sample size of patients needed in order to reach a power of 80% with a p value <0.05. Women were randomized to control or EpiNo Group by a computer-generated list. Midwives and Obstetrician were blinded to group allocation. Ethical approval and written informed consent has been obtained. All participants underwent a clinical antenatal urogynaecological assessment, which included the evaluation of the pubococcygeus muscle activity (PC test). In addition, prenatal patients' perception of pelvic floor disorders has been investigated by means of standardized Questionnaires, such as the ICIQ-SF (International Consultation on Incontinence-short form), PGI-S (Patient Global Impression of Severity), PGI-I (Patient Global Impression of Improvement) and FISI (Fecal Incontinence Severity Index). Women who recieved EpiNo device, were coached to use it daily, for a 15 minutes session a day, from the 36th gestational week onwards. The perineum was considered "intact", if no suturing was required. Postpartum clinical examinations were scheduled at 6 and 12 months and all women were invited to fill in the beforehand mentioned Questionnaires

RESULTS

Of the 130 women initially included, 27 (20%) of them underwent a Caesarean Section (CS) and has been therefore excluded. Out of the 103 women remaining, 48 (47%) received Epi No and 55 (53%) were in the control Group.
The episiotomy rate was 64% and 62% respectively in the EpiNo Group and in the Controls.
The investigated obstetrical outcomes did not statistically differ in the two groups, except for a significantly shorter 2nd stage of labour registered among the EpiNo users (37 vs 53 minutes, p = 0.03). Although a clinical benefit in the Epi No group has been observed, since a higher rate of intact perineum has been recorded (31 vs 14,5%). Fetal outcome and APGAR score has not been influenced by using EpiNo.
82 (80%) women were available for follow up 6 months postpartum, of them 46 (96%) cases and 36 (65%) controls, while at the follow up visit 12 month postpartum only 28 (27%) women showed up: 17 (35%) EpiNO users and 11(20%) controls.
At both follow up assessments EpiNo users had a lower rate of pubococcygeus muscle strength Impairment, measured by PC test compared to the controls (68 vs 81%), moreover a higher rate of sexual activity has been recorded (50 vs 31%). No differences have been observed in terms of urinary incontinence and anal incontinence episodes in the two groups

INTERPRETATION OF RESULTS

The introduction of EpiNo in our reality, has improved the sensitivity of both women, obstetrician and midwives to the preservation of an intact perineum and contributed therefore to change the previously current clinical practice of our maternity. We could observe an overall reduction of the episiotomy rate: from 80 to 64%, although no differences occurred between the two groups.

CONCLUSIONS

EpiNo is a safe medical device and is well tolerated from women and their partners. Moreover, its use had a positive impact on sexuality: a higher rate of sexual activity has been recorded between EpiNo users 50 vs 31%. The use of EpiNo seems to increase patients' confidence with their body, reduce birth anxiety and have a consequently positive psychological impact, able to shorten the second stage of labour, as shown in our data.

We believe in the beneficial effect of EpiNo on the preservation of an intact perineum and to reduce pelvic floor impairments. Although a larger cohort of patients is needed.

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39 - BEST TRAINING FOR OPTIMUM OASIS MANAGEMENT IS NEEDED

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INTRODUCTION AND AIM OF THE STUDY

Obstetrics anal sphinter injuries (OASIS) are a vaginal delivery complication due to a perineal trauma during labor expulsive stage, which global incidence, overall 6.8%, varies among differents studies.
In evaluating the incidence of OASIS comparing differents groups, those that experienced an advanced professional training in the diagnosis and treatment, reported a lower rate of complications.
Risk factors for OASIS are longer labor expulsive stage, instrumental deliveries, obstetric factors as maternal age, fetal macrosomia, fetal position and episiotomy.
Our aim is to discuss the epidemiology, incidence and clinical presentation found in these patients (pelvic floor simptoms like urine incontinence, anal incontinence, perineal pain or pelvic pain between 6 to 8 weeks after the delivery).

MATERIALS AND METHODS

This is a cohort retrospective study including the cases of third- and fourth-degree perineal lacerations in our center since 2013 to 2017 following Sultan Classification[(1)]. In 2012, we introduced an advanced training program for obstetricians geared towards not only primary diagnosis of the injury, but also a special training to improve the repair techniques.

RESULTS

We found 82 cases over 6075 vaginal deliveries with 3rd or 4 ^{or} degree OASIS, so the incidence in our center was 1.35% (IC95% 1,09-1,67). The 3rd degree OASIS was categorized in 95,1% (78) of patients (3A 61%, 3B 28% and 3C 6.1%), meanwhile 4th degree OASIS cases appeared in 4.9% (4) of patients.
Recognition and primary repair of OASIS following the birth has improved in our department after the implementation of our current protocol in 2012, as we can observe an increased incidence rate from initial 0.8% up to 1.35% of perineal injuries.
A percentage of 73,2% of the patients were primiparous, 20,7% had a previous delivery and 6,1% had multiple deliveries (≥ 2). The average gestational age at birth was 40+0 weeks.
The average age was 31.83 years old (45-18). The 75,6% (62) of patients were Spanish, 8,5% (7) Moroccan, 8,5% (7) from South-American, 4,9% (4) from Eastern Europe and 2,4% (2) Chinese.
The average pregestational weight was 62,9kg, The average body mass index (BMI) pre-delivery weight and weight gained were 23,6kg/m2, 73.8 kg and 10.9kg respectively.
We used oxytocin for labor stimulation or induction in 62.2%(51) of the cases, regional anesthesia was administrated in 97.6% and we practiced elective episiotomy in 64.6% (53) situations.
OASIS were found in 67,1% (55) of the cases after a spontaneous vaginal delivery, 32.9% (27) after an operative vaginal delivery (28% forceps; 4,9% vacuum-assisted). Average labor expulsive stage time was 126,15 minutes. Regarding neonatal outcomes, average weight 3.361,52 gr, obtaining 8,5% (7) rate of macrosoma. Arithmetic mean of cephalic perimeter was 34,810 cm.
According to the current protocol in our unit, patients were required to undergo a medical examination after a period of 6-8 weeks (4 patients didn´t perform follow-up visits). We observed among our patients a rate of 50% (39) affected by a pelvic floor disfunction [(2)], being the most prevalent urinary incontinence (28,2%; 22), closely followed by anal incontinence (19,23%; 15). There was a rate of 3,8% (3) of the patients that claimed to suffer from both symptoms. Up to a percentage of 6,4% (5) were patients with symptoms of perineal pain or discomfort.
An univariate analysis was performed using modified-Poisson regression to state significant relative risks for multiparous patients (RR=1,75; p=0,036), maternal age (RR=1,08; p<0,001) and cephalic perimeter (RR=1,26; p=0,034).

INTERPRETATION OF RESULTS

Obstetrics and neonatal factors such as multiparity, maternal age and cephalic perimeter are described as risk factors in our review, finding out in a multivariant analysis that maternal age increase 7% the incidence of pelvic floor dysfunctions each year.
Pelvic floor dysfunction and maternal age link is widely described in different studies, expound as connective tissue defects and neuromuscular pathways changes, among other issues. However, our study claimed that

50% of women between 18-45 years old, affected by pelvic floor disturbances, being superior than the rate described in the previous reviews (9,7%). Hence, physical impairment due to age is not the onset of pelvic floor dysfunction symptoms in women with perineal injury.
Severe OASIS frequency in our center was low. This fact combined with the lack of clinical records before 2013, created a simple size limitation in our study. Also, there are some women denying the existence of symptoms after a perineal injury due to cultural/ social factors.

CONCLUSIONS

Nowadays a consensual guideline elaborated by Obstetrics and Urogynaecology-Pelvic Floor Units is an invaluable tool that lead the professional staff in diagnosis and management of the cases and offer OASIS-affected patients the best healthcare.[(3)].
Maternal age is a relevant non-modifiable risk factor in our environment through the delay of maternity.
In the future we need to perform more studies and reviews to establish a higher quality evidence about modifiable risk factors to create new strategies for preventing OASIS.

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40 - I KNOW WHAT WOMEN REALLY WANT(WHEN IT COMES TO TALKING ABOUT SEX)!

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INTRODUCTION AND AIM OF THE STUDY

Sexual relationships and behaviours are key components of wellbeing and are affected by social norms, attitudes and health[1]. Communication between Health Care Professionals and patients about Sexual function (SF) and Lower Urinary Tract Dysfunction (LUTD) has long been problematic and there are still many clinicians who do not approach the topic of SF in patients with LUTD.

The aim of this study was to generate ideas, for the purpose of devising recommendations for future change and improvement in clinician's approach to discussing SF. This included gaining an insight into the variation of patient experience, an understanding of how women want to be approached and the patient's perceived role of the clinician. An awareness of the barriers that patients feel restricts their ability to discuss SF and to discover the reasons why patients may deceive clinicians or withhold relevant information was also investigated.

MATERIALS AND METHODS

Two focus groups (FGs) were convened with women who had attended a Urogynaecology service. The same schedule and questions were asked in each FG. Grounded Theory Methodology was used by two independent researchers to analyse the emerging themes and sub themes. In addition to the individual coding, the data were uploaded to NVivo 11 (a qualitative data analysis computer software package) to help sort, search and arrange the information and examine relationships in the data.

RESULTS

At total of 12 women attended the FGs. The youngest participant was 27 years and the oldest was 75 years. Half of the women were in the 41-60 age range. In relation to ethnicity, 8 were Caucasian, 3 Afro-Caribbean and 1 Asian. Three had been referred to the department with SUI, six had OAB / DO, two had POP in isolation while 3 of the women with SUI / OAB had concurrent POP. The final woman had been referred with recurrent UTIs. Parity ranged from 0-4 live births. Half were post-menopausal. A quarter of the women did not report any co-morbidities but the others had 1-3 each. 7 of the women were Sexually Active (SA) and 5 not sexually active (NSA). There were four core themes and several sub themes that emerged from the data as demonstrated in table 1 and there was significant overlapping between the themes.

Table 1

Theme	Sub theme
Perceived barriers to discussions	Sexual Inactivity Sex of the clinician Presence of a partner Age of clinician Family dynamics Timing of discussion Woman centred Cultural issues Environment
Communication factors	Methods of communication Personal feelings What if we don't ask
Ideas to introduce the discussion	Written methods Conversation starters Pre-warning
What do women lie about and why	Topics of deception Rationale for lying

INTERPRETATION OF RESULTS

It seems quite contradictory that sexual inactivity is seen as a barrier to discussion of SF. However, there were several reasons identified that supported this subtheme. For some women who were NSA, the rationale for this was cut and dry so that further discussion would be halted.

'mine is through choice after my husband passed away 25 years ago and I don't like to talk about it'

For several of the women, just because they were NSA at that time, they did not want the conversation to stop there. They reported feelings of exclusion and that they are missing something if not asked. For these

women it was highlighted that just because they are NSA at that time, does not mean that they are not seeking a relationship, and that in reality there are a whole different group of concerns and issues that women have in, or seeking new sexual relationships. These may be related to body image / desirability / performance and if there are additional concerns associated with LUTS for example fear of leakage / smelling during sex or the concerns over disposal of incontinence pads, these increased anxieties may further restrict or prevent women from engaging in new sexual relationships. Further research into this concept is necessary to fully understand the issue and how HCPs may help and guide women to overcome this barrier.

The sub theme 'What if we don't ask' also seems contradictory. Women appear to report significant barriers to discussion, admit to lying when asked questions, however, report that they would feel that their assessment was incomplete if they had not been questioned regarding SF and that it was considered a slant on their womanhood when not mentioned. This highlights the fact that although these discussions may be difficult for women, they are of significant importance and HCPs need to ensure that they work on breaking the barriers and taboos associated with SF, in order to provide optimal care and assessment of their patients.

Women do appear more comfortable discussing SF with a women but age of the clinician is also a factor.

Another significant barrier discussed by the FGs was the presence of a partner in the consultation. Only one woman reported that she did not have a problem discussing SF in front of her partner. For all the other women, even those who did not currently have a partner, it was felt that having a partner with you during the discussion would prevent women from being completely honest. For some this was because the partner was not aware of issues and they didn't want them to be voicing comments such as:

> *'Even with your husband sitting there, who you are obviously intimate with, I think a lot of people would not be comfortable talking about their issues with sex with their husband, with their husband sitting there, and more so if it is just a friend'*
>
> *He doesn't need to know everything that's going on down there. He needs to look at that and feel good'*

Communication skills was a theme that overlapped with many of the other themes. The establishment of solid Patient –clinician relationships was a key feature that encouraged women to open up and feel comfortable discussing SF**.** Personal discomfort and embarrassment were commonly cited as barriers to communication and the most common reason for being dishonest is related to not wanting to be judged. Many of the women felt that a questionnaire, completed before their consultation would be preferable, to allow them to explore their own personal thoughts and reduce embarrassment associated with the conversations.

All of the participants agreed the main reason that women lie to clinicians is because they do not want to be judged. This not only meant that women were withholding information, but they were actively changing responses based on what they though the clinician would expect from them or want to hear. For some of the women the rationale came back to personal feelings of embarrassment and their own self esteem. Some of the group also reported lying to clinicians as they did not want their behaviour to be blamed for the problem that they reported.

CONCLUSIONS

Overall these FGs have provided us with rich and valuable data regarding how we should be approaching the topic of SF with women attending our service. It has identified several areas for service development, such as changing the information in our appointment letter to include a 'warning' that discussions regarding SF may take place during the consultation. It has also emphasised the point that no single approach will work for everyone and care and communication should be individualised for each patient. These findings could also be of use to other clinicians and researchers assessing, investigating and managing SF in women with LUTS.

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41 - DIMENSIONAL PROFILOMETRY – COMPLEX METHOD TO EVALUATE THE DIMENSIONAL PRESSURE DISTRIBUTION IN THE URETHRA

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INTRODUCTION AND AIM OF THE STUDY

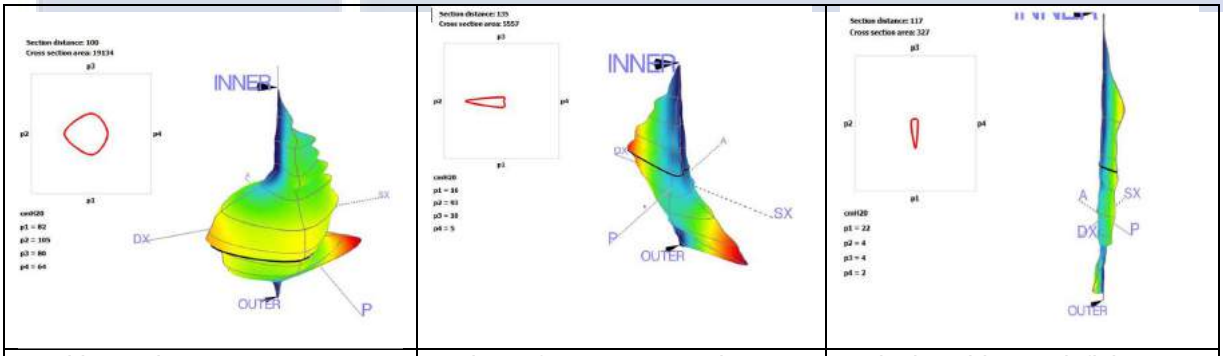
Urethral profilometry is one of the urethral assessment methods, a feature of urodynamic diagnostics, used since the 1970s. It involves simultaneous measurement of intraurinary and intraurethral pressure at rest and during exercise tests. Urethral profilometry, created as a scientific and research tool, has numerous limitations in clinical practice. It is accused that this is not a repetitive study. One of the main limitations of profilometry results from the use of traditional catheters - intraurethral pressure is measured along the entire urethra but only on one of the points of its circumference. From the anatomical structure of the urethra, the results of the dimensional pressure distribution are very different, depending on the direction in which the measurement is directed. In patients with pathology of lower urinary tract pathology, after surgery or injuries of this area, the pressure distribution is even more disturbed. Dimensional profilometry allows for more precise and global assessment of the dimensional distribution of pressure in the urethra.

MATERIALS AND METHODS

Dimensional profilometry is performed as an element of comprehensive urodynamic diagnostics. We use 5-channel catheters, model 5 PPV-9, diameter 9Fr, four of which are used to measure intraurethral pressure (Pura), and the fifth to measure the pressure in the bladder (Pves). Four Pura measurement channels are arranged radially every 90 degrees at a distance of 6 cm from the Pves channel (Fig. 1) and dedicated software for analysis and graphical illustration of the Pico3000 result. The pilot study included till now a group of 10 patients with various pathologies of the lower urinary tract.

RESULTS

Performing a dimensional profilometry test, we obtain an easy to analyze and transparent images of the pressure distribution in the patient's urethra. We present below the examples of pressure distribution images in the urethra depending on the compliants of the subjects.



Healthy Patient	Patient after TOT procedure	Intrinsic sphincter deficiency

Figure 2 Exemplary graphs of dimensional profilometry (INNER-internal urethral meatus, OUTER - external urethral meatus, p1-p4 pressure values corresponding to individual catheter channels, A reading from the P_1 catheter - ventrally, S_x (reading from the catheter P_2) left side, P reading from the P_3 catheter - rectally, D_X reading from the P_4 catheter - right side

The software used enables viewing of 3D images at a selected angle, their rotation and numerical analysis of pressures at any chosen points of the urethra. The red mark in the frame illustrates the shape of the urethral section at the level indicated by the black line on the 3D graphics.
The examination time, technique and discomfort experienced by the patient do not differ from those of classical profilometry.

CONCLUSIONS

The dimensional profilometry of the urethra allows a comprehensive assessment of the dimensional pressure distribution in the urethra, and the use of dedicated software allows to obtain a transparent and

easy to analyze three-dimensional images of pressure distribution. No other method or multiple measurements using classical profilometry allow to obtain such a complete data on the urethral pressure distribution. Specifically, this method can be used in the diagnosis of complicated cases of lower urinary tract disorders, urethral evaluation in patients after surgery of lower urinary and genital tract, with suspected obstruction in urine outflow at the level of the urethra. Assessment of repeatability, clinical use and implementation in daily clinical practice require further research on a larger group of patients.

42 - A NEW BIOACTIVE INJECTABLE BULKING MATERIAL FOR THE TREATMENT OF STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI), affecting 20 million women worldwide, is involuntary leakage of urine caused by physical activities, sneezing, or coughing[1]. The primary cause of SUI is the weakness of the pelvic floor muscle complex and/or of the urethral sphincter muscle complex, resulted from mechanical trauma during childbirth or by hormonal changes. Sling surgeries are the most effective and popular procedures, which are currently considered the gold standard treatment for SUI[2]. Bulking agents provide an alternative option in the management of women with SUI. Bulking agents are injected into the submucosal tissue of the urethra to increase urethral resistance. However, currently available bulking agents mainly result in scar tissue formation at the injection sides, rather than enhancing healthy tissue formation. An ideal injectable bulking agent should be biocompatible, nonimmunogenic, and not induce scar tissue formation at the injection side. In this study, the regenerative capacity of a new bioactive injectable bulking agent was tested in a rabbit bladder model. This bulking agent is composed of Permacol™ (i.e. crosslinked collagen) and recombinant insulin like growth factor-1 (rIGF-1) conjugated fibrin micro-beads. This study proposes a novel, efficient, and long-lasting treatment approach for women with SUI.

MATERIALS AND METHODS

Fibrin micro-beads (fib), either containing 20 µg of rIGF-1 or no growth factor were fabricated using a droplet microfluidics system, described by Vardar et al.3. For the rabbit experiments, 100 µL of fibrin micro-beads, containing either rIGF-1 or or no growth factor, were mixed with 500 µL of Permacol™. The total volume was submucosally injected into the rabbit bladder wall (Fig.1).

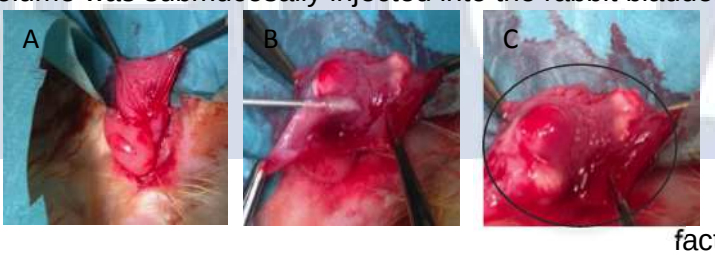

Fig.1. Submucosal injections of Permacol™ mixed with recombinant insulin like growth factor-1 conjugated fibrin micro-beads (fib_rIGF-1_Permacol™) into the rabbit bladder. (A) Midline incision of the bladder to facilitate the submucosal injection. (B) Injection of 600 µL fib_rIGF-1_Permacol™. (C) The injected fib_rIGF-1_Permacol™ formed bulks within the bladder wall. The injected bulks are marked with a grey circle.

Full bladder tissues were harvested 28 and 90 days after the surgery. They were immediately immersed in formalin and kept at 4°C. After 4 days of fixation, collected bladder tissues were embedded into paraffin. 5 µm thick paraffin sections were stained with hematoxylin and eosin (HE) (Sigma-Aldrich, USA), or Masson's trichrome (MT) (Sigma-Aldrich, USA) to evaluate the host cell response.

RESULTS

HE and MT staining showed that rIGF-1 conjugated fibrin micro-beads trigger smooth muscle tissue-like formation within the injected bulks (Fig.2).

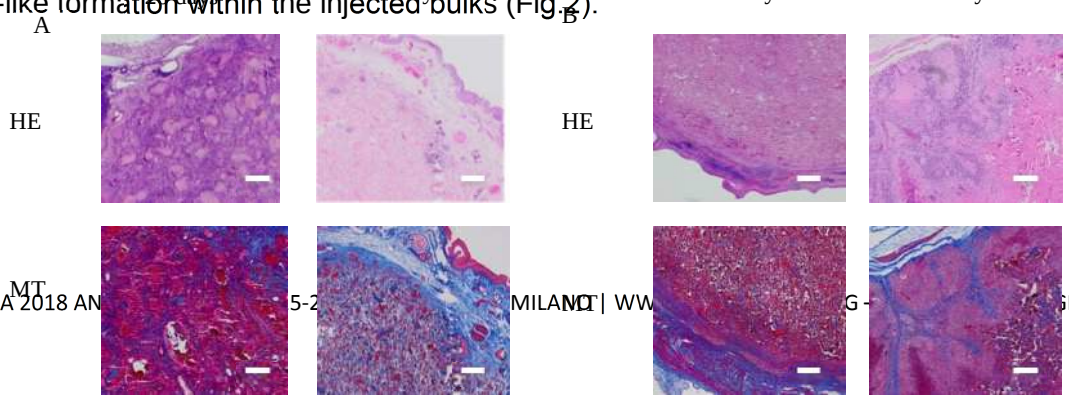

Fig 2. Hematoxylin and Eosin (HE) and Masson's Trichrome (MT) stained cross-sections of bulks 28 and 90 days after submucoal injection into rabbit bladder walls. Bulks consisted of (A) Permacol™ and (B) Permacol™ mixed with recombinant insulin like growth factor-1 conjugated fibrin micro-beads (fib_rIGF-1_Permacol™). Scale bars represent 50 μm.

INTERPRETATION OF RESULTS

3 months after the surgery, smooth muscle-like tissue formation was only observed in bulks made of fib_rIGF-1-Permacol™ (Fig. 2). This infiltration and early organization of hSMCs into bundles within the injected area proves that our material might trigger healthy tissue formation over the study period, in contrast to to existing bulking agents, which trigger a scar tissue formation at the injection site. Currently, immunostaining studies are ongoing to identify the cell types observed in HE and MT stainings.

CONCLUSIONS

We proposed a novel approach to regenerate sphincter muscle function, rather than treating only the symptoms of SUI. This bioactive bulking agent can be a promising candidate for long-term urethral sphincter muscle regeneration. In order to accelerate its transition from lab to clinic, these results should be elaborately discussed with urogynecologists.

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43 - THE ASSESSMENT OF PELVIC FLOOR DISORDERS AND THEIR IMPACT ON QUALITY OF LIFE AMONG GYNECOLOGIC CANCER SURVIVORS.

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INTRODUCTION AND AIM OF THE STUDY

Demographic trends in developed countries (population aging) is accompanied by an increase in both gynaecological malignancies and urogynecological symptoms in female population. Pelvic floor disorders (PFDs): either anatomical (pelvic organs prolapse) or functional (urinary incontinence) negatively affect the quality of life in the general population of patients. In fact every second female patient in postmenopausal age suffer in some degree from urinary incontinence or pelvic organ prolapse, whereas 6% to 19% of these women may demand surgery in the future (1). The prevalence of PFDs among gynecological malignancies survivors is still not specifically determined.

The aim of this study was to determine the impact of oncological treatment (surgery combined with additional oncological therapy) on the prevalence of PFDs among oncological survivors. Moreover the impact of oncological treatment on general quality of life was estimated 6 months after oncological treatment.

MATERIALS AND METHODS

The study group consisted of 160 patients diagnosed with gynecological malignancies including: endometrial cancer (E; n=83), cervical cancer (C; n=30), ovarian cancer (O; n=35) and vulvar cancer (V, n=12). The assessment of general quality of life was performed before and 6 months after treatment using SF-36v2 questionnaire, a standardized and validated instrument which consist of eight aggregated into two independent summary measures: physical component summary (PCS) and mental component summary (MCS). Higher scores indicate better health. Urogynecological symptoms of all patients were checked by means of a King's Health Questionnaire (KHQ) which is a patient self administered report and has 3 parts consisting of 21 items. Additinally there were also an assesment made by using the short versions of UDI-6 (Urinary Distress Inventory) and II-Q7 (Incontinence Impact Questionnaire) questionnaires. Statistical analyses were performed with Statistica package version 12.0 (StatSoft Inc.,Tulsa, OK, USA). A p value <0.05 was considered statistically significant.

RESULTS

The mean age of patients in the study group was 59,13 years (SD±12,12), with the mean menopausal age 49,41 years (SD±5,36). The mean BMI was 26,7 (SD± 5,56). The prevalence of urogynecological symptoms before and afte oncological therapy as well as its influence on general quality of life are presented below.

The analysis of UDI-6 questionnaire revealed statistically significant differences in the group of patients who underwent: abdominal hysterectomy with salpingo-oophorectomy (n=52) also accompanied with lymphadenectomy (n-38) or, by ovarian cancer patients, treated with debulking surgery (n=35). A non-parametric Wilcoxon signed-rank test used for analysis of II-Q7 questionnaire (measuring the impact of urinary incontinence on everyday life functioning) revealed statistically significant differences in all operated groups of patients. There were no statistically significant differences found between groups of patients classified by type of surgery and additional oncological therapy (p>0.05).

Table I. Global results of UDI-6 and II-Q7 Questionnaires in the study group before and 6 months after oncological treatment

UDI-6	N	Mean	Median	Standard deviation	p
before	160	38,64	25	24,11	p<0.05
after	160	51,04	62,5	28,47	

II-Q7	N	Mean	Median	Standard deviation	p
before	160	54,01	33,33	27,59	p<0.05
after	160	76,79	78,57	36,62	

Analysis of the results of KHQ questionnaire peformed by non-parametric Kruskal-Wallis rank test revealed no statistically significant differences between operated groups of patients (p>0.05). Considering the combined therapy (surgery with additional oncological therapy) statistically significant differences in certain domains of KHQ questionnaire were found

Table II. Results of KHQ questionnaire in the study group before and 6 months after oncological treatment (surgery and additional therapy).

KHQ domains	Kruskal-Wallis H-value	p
RL before & RL after	25,18	p<0.05
SL before & SL after	28,47	p<0.05
E before & E after	26,25	p<0.05
SM before & SM after	26,97	p<0.05
GH before & GH after	20,25	p>0.05
II before & II after	23,21	p>0.05
PR before & PR after	19,97	p>0.05
S/E before& S/E after	26,62	p>0.05

RI – role limitations
SL – social limitations
E – emotions
SM – severity measures
II-incontinence impact
PR-personal relationships
S/E- sleep/energy
GH-general health

Table III. Results of PCS and MCS of SF-36v.2 Questionnaire in the study group. Mean value for general population is 50.

	n	Mean	Median	Minimum	Maximum	Standard deviation
PCS	160	44,92	44,00	5,00	97	16,89
MCS	160	47,27	46,00	1,00	97	21,42

INTERPRETATION OF RESULTS

The global assessment with the UDI-6 and II-Q7 questionnaires revealed that oncological treatment (involving surgery and additional therapy) increases the frequency and the impact of urinary incontinence on quality of life in the study group. Moreover indicating: surgery has a worse impact on the specific results of UDI-6 and II-Q7 than combined therapy.

Statistical analysis of each domain of King's Health Questionnaire using non-parametric Kruskal-Wallis' test revealed that in general population of oncological survivors there is a significant deterioration in urinary incontinence symptoms and its' impact on general life functioning.

The results of SF-36v.2 questionnaire revealed that oncological survivors have lower quality of life than general population.

CONCLUSIONS

The frequency of urinary incontinence and it's negative impact on quality of life increases after oncological therapy.

Quality of life among oncological patients is lower than in general population.

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44 - *LAPAROSCOPIC PREPERITONEAL LATERAL REPAIR.*

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INTRODUCTION AND AIM OF THE STUDY

The primary objective of prolapse surgery is the re-establishment of the pelvic floor anatomy and the restoration of normal bladder, bowel and sexual functions. In the anterior compartment due to the detachment of the vesico-vaginal fascia from the arcus tendineus fascia pelvis comes to a paravaginal defect. By the examination we can see a cystocele with maintained vaginal rugae. This defect has been shown to account for about 60 to 80% of anterior compartment prolapse. In our department we introduced a preperitoneal technique. The advantages of this technique in compare to the transperitoneal approach are: lack of required Trendelenburg position, lack of the changes made by the pneumoperitoneum (cardiovascular, pulmonary and endocrine changes), and feasibility to make the operation by very obese women. We don't need also a bowel preparation and the patient can be mobilized and take an oral nutrition in a couple of hours after surgery.

MATERIALS AND METHODS

The skin is incised about 1 cm lateral and 4 cm caudal from the umbilicus. We prepare bluntly the fatty tissue until the rectus fascia. After reaching the fascia, it is clamped by Kocher's clamp and incise for about 10-12 mm (Fig. 1). Then we prepare bluntly the the space under the rectus muscle caudal to the Retzius space. After the preparation we introduce a laparoscopic trocar into this space. We fix it with 4 Vicryl sutures to prevent the dislocation. The preperitoneal space is now -lled out with CO2 and the camera is introduced (Fig. 2-3). The preparation continues with the camera and after the preparation we introduce the next 3 trocars. The retropubical space is now developed and the bladder moved more medial to reach the vaginal wall. Now with 2 non-resorbable sutures of Ticron we suture the vaginal wall to the Cooper's ligament. (Fig.4-5).The next 2 sutures are placed paraurethral under the middle aspect of the urethra. Both of the sutures are under low to middle tension, so that no hypercorrection is made (FIG.6). After we reach hemostasis all of the instruments and trocars are removed.

Fig.1

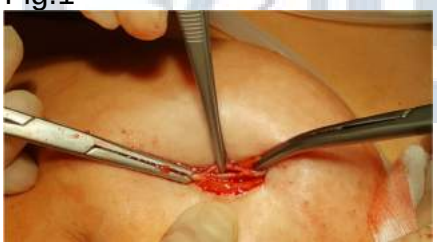

Fig.2

Fig.3

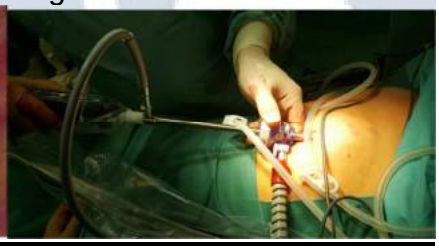

Fig.4

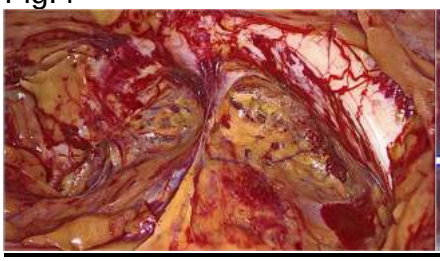

Fig.5

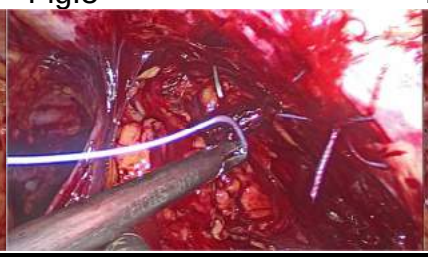

Fig.6

RESULTS

Patients in this study were treated in our department from March 2017 to June 2018.
Patient's characteristic is shown in table.

Number of patients	16

Age	42 (32-54)
BMI	25,2(17,3-33,8)
Smoking	12,5% (2 patients)
Premenopausa	87%

All of the 18 patients had a lateral defect at the level II (cystocele). POP Q II has been observed by 100% of the patients. Urinary stress incontinence compliant 55% of the patients. After the operation the lateral defect was reduced to POP Q I or 0 by 100% of the study population. Also the incontinence disappeared by all of the women with this problem. The operation was good tolerated. Only 1 patient compliant of a postoperative pain (9%). The most common postoperative complication was the urine retention. This complication occurs by 2 patients (12,5%) and was a transient problem. Retention resolved completely after a maximal time of 4 weeks. By 1 patient (6,3%) comes to the recurrence of the symptoms with lateral cystocele after 7 months after the operation. By this patient is planned the re-operation with lateral repair. These are only the first results on a small group of patients. The bigger group of patients and longer observation time is needed for a better rating of this operation and statistical importance. The preperitoneal technique of this operation make this operation feasible for almost all women without contraindication for a laparoscopy. By obese woman is the preperitoneal space fatty-free, just like by woman with normal BMI, so that the preparation is simple and fast.

CONCLUSIONS

If we speak about the changes made in the body because of the pneumoperitoneum. In the cardiovascular system increase the mean arterial pressure for about 30%, venous pressure decrease for about 25%. This can lead to reduction of blood outflow from the retina and postoperative complications. In the pulmonary system the pressure is also increased. FRC is reduced. Adrenaline level increases about 3 times, cortisol 4 times and vasopressin about 40 times. This leads to increase in the peripheral pressure. All of this changes can be omitted by the preperitoneal approach. Use of the sutures by young women is important because of the further pregnancies and less effect of a foreign body compared to the mesh implantation. The effectiveness of this minimally invasive laparoscopic procedure may be a viable alternative to the front MESH procedure among post-menopausal patients.

45 - MEDIUM-TERM OUTCOMES AFTER ROBOTIC–ASSISTED LATERAL SUSPENSION WITH MESH FOR ADVANCED MULTI-COMPARTMENT PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

The correction of apical POP represents one of the major challenges in reconstructive pelvic floor surgery. Sacrocolpopexy (SC) is considered the reference standard for apical POP (1). Abdominal lateral suspension with mesh (ALS) is an alternative strategy, that does not require dissection of the sacral promontory. Robotic assistance is perceived by many surgeons to offer specific advantages in pelvic floor reconstructive procedures. However, the cost-effectiveness of robotic approach to POP abdominal surgery is still an open question. Robotic sacrocolpopexy (RASC) was reported to have good short- to medium-term results with few intra-and postoperative complications (2). However, there is still a paucity of long-term data assessing the durability of robotic POP repair and the available studies have significant methodological differences. Currently there are limited published retrospective, and no prospective trials on robotic lateral suspension (RALS). The aim of this study is to evaluate medium-term clinical outcomes after RALS for the treatment of advanced anterior and apical pelvic organ prolapse.

MATERIALS AND METHODS

We completed a retrospective cohort study of 65 patients who underwent RALS. Clinical evaluation was performed with a simplified POP-Quantification system (POP-Q). Medium follow-up was 20.3 months. Primary outcome was objective and subjective cure; secondary outcomes was reoperation rate for symptomatic recurrence, erosion rate and complications. Subjective cure was defined as absence of vaginal bulge. Patients' satisfaction was measured using the Patient Global Impression of improvement Scale (PGI-I). Statistical analysis was performed using GraphPad Prism 7 (GraphPad Software). Wilcoxon matched-pairs signed rank test was used to study pre- and post-operative outcomes. The values of $p<0.05$ were considered significant. (*$p<0.05$; **$p<0.01$; ***$p<0.001$).

RESULTS

There was a significant improvement in POP-Q score in all treated compartment with an overall objective cure rate of 81.6% for anterior compartment and 93.9% for apical compartment. The reoperation rate for POP was 10.7%. No patient had major post-operative complication (Clavien-Dindo grade ≥3a). One mesh related complication occurred, classified as 2AT2S1 according to the IUGA/ICS Prosthesis/Graft Complication Classification System. Sixty-three patients participated in a telephone interview. The PGI-I scores showed a high medium-term patient satisfaction.

INTERPRETATION OF RESULTS

For the first time, we show a large retrospective cohort study reporting medium term objective and subjective outcomes on robotic approach to lateral suspension technique. Our study shows that R-ALS has good and stable medium-term results in regards to anatomic success and patient satisfaction. Compared to reports from series on RASC, our study shows similar post-operative outcomes with a cure rate for apical prolapse of 93.9%. These findings are also consistent on the laparoscopic lateral suspension (LLS) reports (3).

CONCLUSIONS

RALS offers an effective alternative to abdominal sacrocolpopexy for the treatment of advanced POP. The robotic approach has low rates of complications and good patient acceptability.

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46 - BRIEF TERM AND LONG TERM OUTCOMES OF OBSTETRIC ANAL SPHINCTER INJURIES. AN OBSERVATIONAL STUDY OVER 107 PATIENTS.

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIs) are the most common cause of anal incontinence in otherwise healthy women. The aim of this study is to evaluate brief and long term anal outcomes in women with a diagnosis of OASIs.

MATERIALS AND METHODS

107 patients with a diagnosis of III and IV degree tears have been recruited in the Obstetrics and Gynecology Unit from the 1st of May 2008 to the 30th of April 2015.

All the patients underwent a urogynecologic visit 3 months after the delivery, a transperineal ultrasound and a transanal ultrasound 4 months after the delivery. 85 from the 107 patients recruited answered a telephone questionnaire 4,5±2 years after the delivery.

The primary outcome was the presence of anal incontinence in the brief and in the long term.

Secondary outcomes were the presence of dyspareunia, urinary incontinence and pelvic organ prolapsed.

RESULTS

From the gynecologic evaluation emerged that the 32% of the patients (n=33) suffered from anal incontinence to gas, and that the 6,8% (n=7) suffered from fecal incontinence.

It also emerged that 4,6% of the patients (n=5) developed pelvic organ prolapse (POP).

The transperineal ultrasound showed a damage to the external anal sphincter in the 30,5% of the patients and to the internal anal sphincter in the 25% of the patients; these results are lower than those reported in the international literature.

The transanal ultrasound showed a damage to the internal anal sphincter in the 51,8% of the patients and to the external anal sphincter in the 42,9% of the patients. In our study the number of patients with a damaged internal anal sphincter at the transanal ultrasound was greater than that reported in the international literature.

From the phone interview emerged that 34% of the patients suffered from anal incontinence: the 31,8% of the patients suffered from anal incontinence to gas and the 11,8% of the patients suffered from fecal anal incontinence.

Furthermore 32,9% of the patients answered to suffer from urinary incontinence, described and classified by the ICIQ-SF questionnaire: 2,3% suffered from mild urinary incontinence, 21,2% suffered from moderate urinary incontinence and 9,4% suffered from serious urinary incontinence.

22,4% of the patients suffered from dyspareunia and 17,6% had symptoms of POP.

60,7% (n=65) of patients underwent perineal physiotherapy and from the phone interview emerged that of these patients 30,7% (n=20) had urinary incontinence, 30,7% had anal incontinence to gas (n=20), 12,3%

(n=8) had fecal incontinence, 15,3% (n=10) dyspareunia and 15,3% (n=10) symptoms of pelvic organ prolapse.

In the group of women who didn't underwent perineal physiotherapy (n=42) 19% (n=8) had urinary incontinence, 14,2% (n=6) had anal incontinence to gas, 2,3% (n=1) fecal incontinence, 21,4% (n=9) dyspareunia and 4,7% (n=4) symptoms of pelvic organ prolapse.

INTERPRETATION OF RESULTS

From our study emerged that at the urogynecologic visit 32% of the patients developed anal incontinence to gas and 6,8% developed fecal incontinence, as it is described in the international literature. This figure confirms the crucial role of OASIs in the pathogenesis of anal incontinence.

From the phone interview emerged that 11,8% of the patients suffered from fecal anal incontinence, and this percentage is higher than that reported in a recent review of literature (6,9%). From the international literature emerges the same temporal trend of this symptoms: the percentage of anal incontinence to gas is stable in time and the percentage of fecal incontinence increases progressively.

The percentage of patients with a damage of the external and internal anal sphincter visible at the perineal ultrasound is lower than that reported in the international literature, in which is reported a damage to the anal sphincter in 58,3% of cases. This can be explained by the exiguous number of patients of the study and by the fact that the perineal ultrasound is an operator dependent procedure.

At the transanal ultrasound the number of patients with a damage to the internal anal sphincter after an OASIs is greater than that reported in the international literature: 51,8% vs 34%. It could be explained by the fact that only 52,3% of the patients underwent a transanal ultrasound, maybe because only the symptomatic women had the motivation to undergo such an invasive procedure.

No statistically significant correlation has been found between perineal physiotherapy and reduction of symptoms.

CONCLUSIONS

This study has been realized to assess the brief and long term outcomes in women with an obstetric anal sphincter injury. This study has shown that in the brief term women with OASIs develop anal incontinence in a higher percentage than women without OASIs at the delivery, confirming the statistics in the international literature. In the long term has emerged that the incidence of complications increase and that they tend to become chronic, with an extremely negative impact on quality of life. Perineal physiotherapy has failed to reduce the incidence of symptoms.

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47 - VAGINAL BIRTH AFTER CESAREAN: HOW DANGEROUS IS IT FOR THE PELVIC FLOOR?

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Introduction: Vaginal birth after Cesarean section (VBAC) is one of the few strategies available to reduce the cesarean section (CS) rate. A number of studies address the topic of perinatal outcomes and maternal complications with VBAC. There is some evidence of VBAC being a risk factor for OASI (1), none regarding the effect of VBAC on the levator ani muscle.

Objective: To determine the prevalence of major levator ani trauma (avulsion) in women after a first vaginal birth after CS.

Methods: We searched our hospital database to identify patients with successful VBAC (normal vaginal birth, NVD) within the last five years, with no further delivery since. We invited all eligible women for an interview and 4D pelvic floor ultrasound (Voluson systems). In the interview we queried symptoms of pelvic floor disorders and their personal view on the mode of delivery. This was followed by 4D pelvic floor ultrasound on pelvic floor muscle contraction and Valsalva maneuver. The volumes were stored for later analysis by the first author, using tomographic imaging in the axial plane. All patients signed informed consent and the study was approved by the local ethic committee.

Results: We were able to identify 101 eligible women of which 46 (46%) attended the planned visit. Mean follow-up length after VBAC was 2.2 (1-5) years. The mean age at VBAC was 32.6 (24- 40; SD 3.95) years, mean BMI 27.3 (SD 2.78), mean birthweight 3420g (SD 406.9). The mean age at the time of the preceding CS was 29.7 (20- 37; SD 3.62) years. A levator ani avulsion injury was diagnosed in 12/46 (26%), and it was bilateral in four (9%). On analysis urinary incontinence was reported by 14/46 (30%) on interview, and 21/46 (46%) answered positive to question Q3 of the ICIQ-SF questionnaire 45.6%. The dyspareunia rate was 9% (4/46), and 26/46 (56%) gave a Wexner score for anal incontinence of ≥ 1. When asked which mode of delivery they would preferred for the next delivery, 83% (38/46) would choose vaginal delivery, 13% a CS (6/46); 2 women voiced no preference.

Conclusions: This study, while of limited power, represents the largest series of VBAC patients assessed for major pelvic floor trauma to date. The avulsion rate was 26% which is at the top end of the range for prevalence rates in primiparae after normal vaginal delivery. Subjective symptoms after VBAC seemed surprisingly common. It appears that VBAC may be more likely to result in pelvic floor trauma and symptoms of pelvic floor dysfunction than a first normal vaginal birth.

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48 - LONG TERM SEXUAL OUTCOMES OF TRANSVAGINAL MESH REPAIR FOR PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic Organ Prolapse (POP)is a disorder in which pelvic organs drop from their normal position. POP affect 1 woman out of 2 and its frequency is strongly influenced by several factors such as number of pregnancies, obesity and pelvic surgery. POP may impair urinary, bowel and sexual health. Though sexual dysfunction in women with POP is associated with reduced sexual arousal and dyspareunia, sexual outcomes have not been fully investigated. Transvaginal mesh repair is a therapeutic option in women with POP but is debated as a possible cause of worsening in sexual function. Aim of this study is to evaluate pre-operative and post-operative sexual outcomes in women undergone to surgical POOP repair.

MATERIALS AND METHODS

Data coming from women treated with surgical POP repair in our tertiary referral center from 2008 were retrospectively collected. POP was measured according to the Half Way System (HWS) classification. Patients' characteristics, operative and post-operative data were collected. Follow-up was carried out at month 3,6 and 12 and then yearly. Sexual function was measured through FSFI (Female Sexual Function Index) questionnaire which evaluates 6 main domains (desire, arousal, lubrication, orgasm, satisfaction and pain). Minimum follow up was 12 months. FSFI score was assessed in women who had an active sexual life before and after POP surgical repair.

RESULTS

A total of 168 women underwent transvaginal mesh for III or higher POP. Overall, 107 (63,6%) patients were sexually active at surgery. Patients lost at follow up were 21 (19,6%). Patients' characteristics are summarized in Table 1. Median follow up was 62 months (IQR 38-96). Globally FSFI was affected from mesh surgery at 12 months and at last follow up, with lower scores at each visit. In detail, desire, arousal, lubrication, orgasm and satisfaction were reduced after transvaginal mesh surgery.

INTERPRETATION OF RESULTS

In pur experience, pain was not affected from surgery and dyspareunia was a rarely reported complication (1 patient, 0,9%). Age should have had a role in the reported FSFI, especially at long term follow-up, as demonstrated with the relatively stable results. However, transvaginal surgery should have had affected the sexual life of the patients, reducing both elasticity of the tissue and the lubrication. Desire and arousal should have been reduced also for the fear of POP recurrence, thus affecting the results Though transvaginal mesh repair still represents a good option for women with POP, preoperative sexual function should be investigated and follow-up should include FSFI questionnaire for a better evaluation of the sexual outcomes. Bartuzi et al described no impairment in sexual function after transvaginal mesh repair, however their follow up was less than 18 month and patient's initial characteristics were different [1]

CONCLUSIONS

In our experience, global sexual function seems to be affected by surgical repair. However, dyspareunia was not reported as a frequent complication in patients during follow-up and pain was not a major complication. Several factors may influence these findings and more research is needed.

TABLE 1

Sexual Quality of LIfe and Transvaginal Mesh Repair for Pelvic Organ Prolapse		Preoperative Characteristics (n=107)	12 months Follow Up Characteristics (n=107)	Last Follow Up Characteristics (n=86)	P value
Age (years), median (IQR)		62 (56-66)	63 (57-67)	67 (61-71)	
BMI (Kg/m^2), median (IQR)		24,9 (22,3-28,9)	24,9 (22,4-28,9)	25,1 (22,5-29,3)	
Anterior Compartment	3-4	107 (100%)	107 (100%)	0 (0,0%)	

Prolapse (HWS), n (%)					
Medium Compartment Prolapse (HWS), n (%)	3-4	32 (29,9%)	32 (29,9%)	0 (0,0%)	
Posterior Compartment Prolapse (HWS), n (%)	3-4	15 (14,0%)	15 (14,0%)	1 (1,2%)	
FSFI, mean (SD)	Global Score	17,6 (5,2)	14,1 (4,9)	13,9 (4,7)	0,015
	Desire	3.2 (0,8)	2,6 (0,8)	2,5 (0,7)	0,007
	Arousal	2,7 (1,1)	2,1 (0,9)	2,0 (1,0)	0,029
	Lubrication	2,5 (1,1)	1,8 (1,0)	1,7 (1,0)	0,018
	Orgasm	2,8 (1,0)	2,1 (1,1)	2,0 (1,2)	0,037
	Satisfaction	3,2 (0,9)	2,5 (0,9)	2,3 (0,9)	0,022
	Pain	3,3 (1,1)	2,8 (1,2)	2,7 (1,2)	0,349

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49 - MANAGEMENT AND OUTCOME OF MESH COMPLICATIONS IN FEMALE PELVIC FLOOR SURGERY YORK MESH SALVAGE CENTRE RESULTS

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INTRODUCTION AND AIM OF THE STUDY

Over the last 20 years, synthetic mesh procedures have been widely used to treat urinary stress incontinence (SUI) and vaginal prolapse. Mid-urethral sling operation is one the mostly studied procedure with well known short and long term success rate (1). With the increasing patients and legal interest in litigation cases related to mesh complications (2), there is a growing need that surgeons should share their experiences to establish best practice care. York is one of the nationally recognised salvage centres.
The aim of this paper is to review our experience in the management of mesh complications and outcomes since 2012.

MATERIALS AND METHODS

Retrospective review of all women presented to our unit with complications related to vaginal mesh, tapes and implants from January 2012 to June 2018. Data collected included type of implant, type of complication, management and outcome.

RESULTS

64 patients (age 43-85) presented with complications related to mesh surgery, 70% had their initial procedure in other units.
A range of investigations were performed as required including: flexible cysto-urethroscopy, MRI, and video urodynamic studies. All patients were discussed in the Pelvic Floor MDT and reported to HMRA (3). Some of the salvage procedures were performed jointly with other members of the Mesh Salvage team.
Urethral erosions (N=14) 5-Macroplastique and 10-MUS were excised +/- Martius vaginal flap.
Bladder erosions (N=7); 4-TVT, one mini-sling, one TOT and one had TVT, TOT and vaginal mesh, these were excised laparoscopically with intra-vesical assistance and one required open excision.
Vaginal extrusions (N= 26) 12-TVT, 8-TVT-O, one mini-sling, and in the remaining the type of tape was not clear from history, 20 had excision of tape+/- Martius vaginal flap, 6 still awaiting treatment.
13 patients had no erosion but developed voiding dysfunction and needed urethrolysis +/- excision of tape. 4 developed chronic pain and required excision of mesh. There were no significant post-operative complications.
Following salvage procedure OAB symptoms (15/64) were managed with medical treatment, Botox or sacral neuro-modulation. Persistent significant pain (1/64) has been managed with pudendal nerve block and the pain team (part of the Mesh Salvage team).
Recurrent SUI post-salvage surgery occurred in 15/64 (23%). 6 treated successfully with autologous pubovaginal slings and 6 treated conservatively. The remaining are still awaiting further assessment.

CONCLUSIONS

Mesh complications can result in disabling and catastrophic consequences to women and should be managed in specialist centres. York centre follows NHS England Mesh group, BAUS and BSUG recommendations and this is an ongoing audit.

50 - MID-TERM RESULTS USING THE REMEEX SLING SYSTEM FOR FEMALE COMPLEX STRESS URINARY INCONTINENCE: A RETROSPECTIVE ANALYSIS OF 48 PATIENTS.

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is defined as a disease entity that presents with involuntary urine leakage during effort, exertion or coughing. It is predominantly a female health problem and affects around 8-46% of women, increasing its prevalence with age(1). To treat SUI, several techniques such as retro pubic colposuspension, pubovaginal slings, injectable bulking agents, needle suspensions and artificial sphincter have been developed. Recently, tension-free midurethral sling procedures have been used widely for complex SUI and several studies have shown excellent long-term effectiveness with a relatively low complication rate (2)(3). The readjustable midurethral sling (Remeex system, Neomedic®, Spain) is an adjustable device that allows regulating midurethral tension intraoperatively and postoperatively, which theoretically can improve the success rate of the procedure and decrease the complication rate. Due to its adjustability, Remeex system can be used for women with complicated SUI, recurrent SUI after previous anti-incontinence surgeries and fixed urethra.
The purpose of this study was to report our experience and evaluate the outcomes and complications at mid- to long-term follow-up after a Remeex system in women with complex SUI (stress urinary incontinence) and MUI (mixed urinary incontinence).

MATERIALS AND METHODS

The medical records of 48 female patients with urodynamically proven SUI who were treated with the Remeex system between July 2012 and January 2018 in our centre (single-operator) were retrospectively analysed. Indications for surgical treatment of UI for Remeex included patients affected with fixed urethra (also mild urethral mobility) and previous failed incontinence surgery. Demographic characteristics, gynaecological history, previous surgeries and UI treatments were sought. In our centre the UI work-up includes: pelvic physical exam, pelvic floor ultrasound, urodynamic studies (UD) and Pad test. The following variables were analysed: age, type of UI, voiding diary, urethra mobility (Q-Tip and ultrasound), previous UI surgeries, surgical complications, need of re-adjust, UD and Pad test results pre/post procedure and subjective evaluation after surgery. These data were studied using a descriptive analysis through absolute and relative frequencies and means. Ninety-five per cent confidence intervals (CI) were calculated by the Wald test.

RESULTS

A total of 48 patients were included. Mean age was 69.8 years (42-84). Median follow-up was 16 months (1-49). Symptoms and previous UD revealed that 26 patients (54%) had SUI and 22 (46%) had MUI. Most of them (35 in total, 73%) have had a previous anti incontinence surgery and 17% have had a POP (pelvic organ prolapse) repair. Pre surgical UD showed normal detrusor in 29 patients (60%), hypoactive in 11 (23%), hyperactive in 4 (8%) and non-contractile in 4 (8%). The mean of urethral pressure was 38,8 cmH20. A fixed urethra was clinically and ecographically observed in 29 (60%).
Major surgical complications occurred in 8 patients (17%; CI 95% 6.1 to 28%): reported as 3 one-side bladder lesions (7%), 3 prosthetic infection (7%, with the result of explant in 1 patient) and 2 tape erosion (4%, with need of surgery in 1 patient). Minor complications occurred in 10 patients (22%; CI 95% 10 to 34%), reported as 3 acute urine retention (6%, solved with tension readjustment), 6 urinary infections (13%) and 1 case of chronic pain (2%, solved with infiltrations in pubis and obturator internus muscle).
UD after surgery (performed in 35 patients) revealed an improving in UI in 22 patients (63%; IC 95% 49 to 77%). In the group of patients with no improvement (37%; CI 95% 23 to 51%), 23% (3 patients) had been classified as fixed urethra. The mid-term follow up showed the need of late regulation of the sling in 7 patients (15%; IC 95% 5 to 25%) within a mean of 15,2 (11-22) months. The mean of the difference between pre and post-surgery PAD test was -77,45g (mean pre 221g/mean post 159g). Subjective success rate was 75% (36 patients), 17% (8 patients) noticed no differences and 8% (4 patients) reported a deterioration of UI symptoms (3 patients are included in the waiting list to readjust the tension of the sling). Patients reporting deterioration referred: 54% urgency symptoms, 23% SUI, 15% MUI and 8% voiding dysfunction.

INTERPRETATION OF RESULTS

Results should be carefully interpreted due to our small sample and retrospective design. UD and PAD test still have not been performed yet in 13 patients due to recent surgical treatment (normally performed within the first 6 months-1 year). Focusing on the group of patients with no improvement after the surgery procedure, data have shown the importance of the urethra mobility in the final outcomes. In fact, 53% of the patients with non-fixed urethra had no improvement in the UD after surgery. The most important cause of deterioration of UI is the appearance of urgency symptoms (57% de novo). It is important to report that there was a slight modification in the surgical technique on September 2015. Since the new technique was implemented, no bladder injuries were reported.

CONCLUSIONS

It is important to emphasize that the use of Remeex system is specially indicated in complex UI. The Remeex system has to be considered a great option in patients with recurrent SUI and previous failed anti-incontinence surgeries, particularly in patients with fixed urethra. Our data shows an objective and subjective improvement of the SUI with an acceptable complication rate. The modification in the surgical technique demonstrates better results regarding safety. The possibility to postoperatively regulate the tension of the sling gives a solution for obstructive symptoms and for IU recurrence, even years after the initial procedure.

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51 - MCCALL CULDOPLASTY, MODIFIED MCCALL CULDOPLASTY AND SACROSPINOUS LIGAMENT FIXATION IN PELVIC PROLAPSE PRIMARY REPAIR: A RETROSPECTIVE COMPARISON OF OUTCOMES.

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INTRODUCTION AND AIM OF THE STUDY

Uterosacral or sacrospinous suspensions at the time of primary prolapse repair are well-established surgical options.[1] Our aim was to compare anatomic and functional results and complications rate of three procedures performed at vaginal hysterectomy for vaginal vault suspension: McCall culdoplasty, modified McCall culdoplasty and sacrospinous ligament fixation.

MATERIALS AND METHODS

A retrospective study designed to compare patients who underwent McCall culdoplasty (group A), modified McCall culdoplasy (group B) or sacrospinous ligament fixation (group C) during vaginal hysterectomy and reconstructive pelvic surgery. Perioperative data were noted: age, parity, menopause, body mass index, constipation, diabetes, chronic cough and connective tissue diseases. Follow-up visits were performed 1, 6, and 12 months after surgery and then annually. The objective cure rate was assessed through clinical examination with Pelvic Organ Prolapse Quantification system (POP-Q) scoring. The primary surgical outcome was the detection of rates of surgical failure and time of failure. Surgical failure was defined as POP-Q stage $\geq$ 2. The subjective cure rate was also assessed and occurrence of bothersome bulge symptoms was recorded. Patient satisfaction was assessed through Patient Global Impression of Improvement (PGI-I). [2]

RESULTS

A total of 130 patients (49 in group A, 40 in group B and 41 in group C) were enrolled after a mean time follow-up of 23±9 months (range: 14-33 months). Anatomical outcomes at follow-up assessed through POP-Q scoring were similar in the three groups. Rates of surgical failure at follow-up did not show significant differences among the three groups: group A 30.6%, group B 22.5%, group C 34.1%. Rates of reoccurrence of bulge symptoms were very low and similar in the three groups: 2.0% in group A, 5.0% in group B and 2.4% in group C. Functional outcomes and patient satisfaction were similar in the three groups. Operating time was slightly but not significantly higher in group C. Blood loss and complications rates were similar in the three groups without any significant difference.

INTERPRETATION OF RESULTS

Among women who had undergone vaginal surgery for pelvic organ vaginal prolapse, there was no significant difference between McCall culdoplasty, modified McCall culdoplasty and sacrospinous ligament fixation in rates of anatomic and functional success evaluated through POP-Q scoring and symptoms assessment. There were no significant differences in operative time, complications rate and patient satisfaction among the three groups.

CONCLUSIONS

Both uterosacral ligament suspension procedures (McCall culdoplasty and modified McCall culdoplasty) and sacrospinous ligament fixation were shown to be similarly safe and effective.

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52 - IS THE VOLUNTARY PELVIC FLOOR MUSCLES CONTRACTION IMPORTANT FOR SEXUAL FUNCTION IN WOMEN WITH PELVIC FLOOR DISORDERS?

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INTRODUCTION AND AIM OF THE STUDY

The aim of the study was to investigate relations between pelvic floor muscle (PFM) parameters and sexual function (SF) in women with pelvic floor disorders (PFD); to assess PFM strength, tone and ultrasound parameters in sexually active and inactive women and to find associations with the scores of SF questionnaires.

MATERIALS AND METHODS

Three hundred fifty women, 138 with pelvic organ prolapse (POP), 82 with urinary incontinence (UI), 130 with both disorders (POP and UI) were recruited in the university-based clinic. Of those, 173 (49.4%) were sexually active (SA) and 177 (50.6%) not sexually active (NSA). Medical history was taken, patients underwent clinical evaluation including POP assessment with POP-Quantification (POP-Q), digital palpation of pelvic floor tone (normal, overactive, underactive, nonfunctioning) and pelvic floor strength with Oxford Grading Scale (no contraction, flicker, weak, moderate, good, strong contraction). Two-dimensional (2D) transperineal ultrasound (TPS) was used to measure anteroposterior diameter of genital hiatus (GH) at rest and at maximum contraction, and bladder neck (BN) movement (distance between BN and line through lower border of symphysis pubis) during PFM contraction and Valsalva maneuver. Pelvic Organ Prolapse/ Incontinence Sexual Questionnaire, IUGA-Revised (PISQ-IR) and Female Sexual Function Index (FSFI) were administered. Spearman rank correlation for nonnormally distributed data was used to assess interactions between SF and ultrasound measurements. SA women were allocated into two groups according to muscle strength (weak or strong) and tone (normal or hypoactive) – SF in those groups was analyzed.

RESULTS

NSA women were significantly older, more often after menopause and had higher stages of POP compared to SA women with PFD (Table 1). In NSA women, higher rates of hypoactive PFM tone (underactive or non-functioning) were found compared to SA women 72(40.7%) vs. 52(30.1%) $p<0.05$. TPS genital hiatus diameter did not differ between SA and NSA women at rest and during PFM contraction. BN length was significantly longer in SA compared to NSA women at rest (-1.50±0.70 vs. -1.31±0.94, $p<0.05$) and during PFM contraction (-1.97±0.70 vs. -1.67±1.02, $p<0.01$) respectively. Mean BN elevation did not differ between SA and NSA women. Thirty women (8.6%) depressed BN during PFM contraction.

Correlation between Oxford Grading Scale and ultrasound measurement of change in GH diameter on contraction was confirmed, with poliserial correlation (r_{ps}=0.41; $p<0.001$) (Fig 1). ANOVA and post hoc comparisons revealed that GH change was smaller in women with nonfunctioning PFM vs. normal or underactive, $p<0.001$ (Fig 2).

Differences in PFM tone (normal vs. hypoactive) and strength (weak vs. strong) did not have much reflection in SF questionnaire scores in SA women. Only in PISQ-IR Condition specific domain women with weak PFM achieved higher scores compared to strong PFM (4.20±0.86 vs. 3.79±1.10, $p<0.05$). Women with hypoactive PFM tone had lower quality of SF in PISQ-IR Global quality (2.88±1.11 vs. 3.24±1.01, $p<0.05$) and FSFI Desire domains (2.74±0.96 vs. 3.22±1.08, $p<0.05$) compared to women with normal PFM tone. The effect sizes were weak with eta-squared statistic.

In SA women, BN length at rest correlated with PISQ-IR Condition specific and Condition impact domains; BN distance at PFM contraction correlated with PISQ-IR Condition specific. BN total mobility correlated with PISQ-IR Condition specific, Desire, Global quality and Summary score and with FSFI Desire, Arousal, Orgasm, Satisfaction domains and Full scale score. GH distance at rest and during contraction did not correlate with SF scores (Table 2).

Table 1 Characteristics of the study groups

	SA n=173	NSA n= 177	p
Age (years) mean ± SD	56.2 ± 10.5	65.9 ± 7.9	**<0.001**[a]
BMI (kg/m^2) mean ± SD	27.4 ± 4.8	28.4 ± 4.6	0.06[a]
Postmenopausal n(%)	120 (69.4%)	165 (93.2%)	**<0.001**[b]
PFM strength – Oxford Grading Scale Weak Strong	 142 (82.1%) 31 (17.9%)	 151 (85.3%) 26 (14.7%)	 0.41[b]
Pelvic muscle tone n(%) Normal	 119 (68.8%)	 104 (58.8%)	 **<0.05**[b]

Hypoactive Overactive	52 (30.1%) 2 (1.1%)	72 (40.7%) 1 (0.5%)	
POP-Q stage n(%) 0 1 2 3 4	 6 (3.5%) 9 (5.2%) 57 (32.9%) 88 (50.9%) 13 (7.5%)	 6 (3.4%) 14 (7.9%) 33 (18.6%) 91 (51.4%) 33 (18.6%)	**<0.003**[b]
TPS Genital hiatus diameter (cm) mean± SD At Rest During Contraction Change in GH Mean shortening (%)	 6.28 ± 1.12 5.22 ± 1.1 1.08 ± 0.67 16.98 ± 9.55	 6.45 ± 1.22 5.44 ± 1.09 1.02 ± 0.77 15.26 ± 10.22	 0.20[a] 0.06[a] 0.43[a] 0.11[a]
Bladder neck length (cm) mean ± SD At Rest During Contraction Change in BN (elevation) Mean elongation during contraction (%) Maximal descent at Valsalva maneuver BN total mobility	 -1.50 ± 0.70 -1.97 ± 0.70 -0.47 ± 0.56 23.4 ± 40.1 0.59 ± 1.24 2.09 ± 1.09	 -1.31 ± 0.94 -1.67 ± 1.02 -0.36 ± 0.74 25.2 ± 43.3 0.81 ± 1.15 2.13 ± 1.16	 **<0.05**[a] **<0.01**[a] 0.12[a] 0.7[a] 0.08[a] 0.74[a]

[a] ANOVA test, [b] Chi-square test

Fig 1 and 2 Box plot of relation between change in genital hiatus (GH) diameter and Oxford Grading Scale or PFM tone.

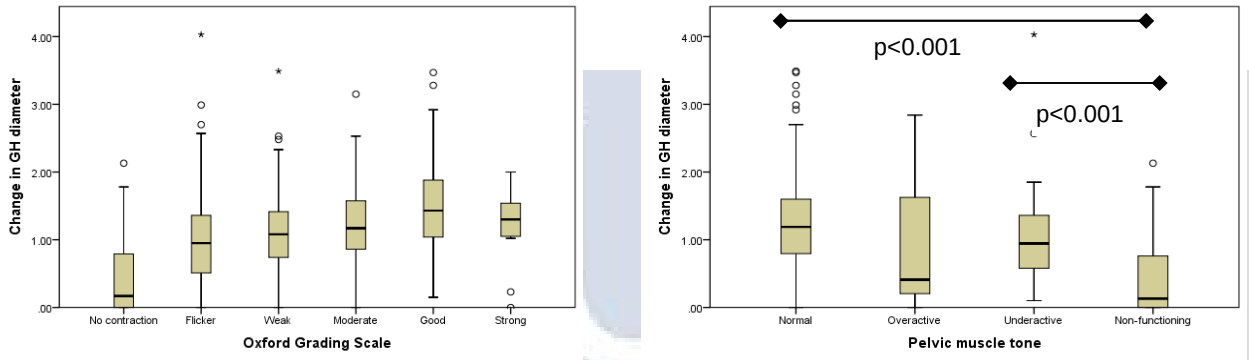

Table 2 Spearman rank correlations between sexual function questionnaires and transperineal ultrasound measurements in SA women.

Domains	GH Rest	GH Contraction	Change in GH	BN Rest	BN Contraction	BN max. descent	BN Total mobility
PISQ-IR							
Arousal, orgasm	-0.06	-0.01	-0.10	0.07	0.01	-0.09	-0.13
Condition specific	0.09	0.05	0.03	**.27****	**.18***	-0.01	**-.16***
Partner related	-0.05	-0.09	-0.02	0.06	0.02	-0.03	-0.14
Desire	0.00	0.00	-0.02	0.03	-0.09	-0.10	**-.18***
Condition impact	-0.02	0.00	0.00	**.17***	0.04	0.07	-0.03
Global quality	0.00	-0.02	0.06	0.10	-0.03	-0.09	**-.19***
Summary Score	-0.05	-0.03	-0.03	0.06	-0.07	-0.07	**-.15***
FSFI							
Desire	-0.02	-0.04	-0.01	0.07	-0.02	-0.10	**-.19***
Arousal	0.02	0.04	-0.07	0.09	-0.01	-0.04	**-.17***
Lubrication	0.11	0.11	-0.04	0.08	0.03	-0.06	-0.13
Orgasm	0.03	0.03	-0.02	0.09	-0.02	-0.08	**-.19***
Satisfaction	0.01	0.07	-0.10	0.08	0.09	-0.11	**-.22****
Pain	0.06	0.04	-0.02	0.13	0.05	-0.02	-0.10
Full Scale Score	0.03	0.05	-0.06	0.11	0.00	-0.11	**-.22****

*p < 0.05, **p < 0.01

INTERPRETATION OF RESULTS

GH diameter at rest and at PFM contraction did not differ between SA and NSA women with PFD. In SA women BN was more cephalad at rest and at PFM contraction compared to NSA women, and lower rates of hypoactive PFM tone were found. Ability to contract PFM measured with ultrasound GH diameter did not influence SF. Greater mobility of bladder neck correlated with lower quality of SF.

CONCLUSIONS
In a group of women with PFD ability to contract PFM have only modest influence on SF.

53 - *MANAGEMENT AND OUTCOME OF PERI-URETHRAL LESIONS; EXPERIENCE FROM YORK HOSPITAL*

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INTRODUCTION AND AIM OF THE STUDY

Peri-urethral lesions are unusual presentation to uro-gyanecology clinics. Clinical diagnosis can be challenging due a broad differential including urethral diverticulum, caruncle, prolapse, peri-urethral cyst (Skene's duct cyst), vaginal wall cyst (Müllerian and Gartner's duct), and neoplasms of urethral or vaginal origin. Women usually present with vaginal swelling, pain, dyspareunia, recurrent urinary tract infections and sometimes voiding dysfunction.
We present a series of cases that presented to urology and gynaecology departments over the last 5 years. MRI studies were used for diagnosis and preoperative assessment. Most cases were treated surgically with good outcome.

MATERIALS AND METHODS

Retrospective review of all patients presented with peri-urethral lesions between November 2013- June 2018. Data collected included presenting signs and symptoms, pre-operative assessment, imaging, surgical management and outcome.

RESULTS

26 patients were identified (age range 24-83). The most common presenting symptom was vaginal pain +/- dyspareunia in 18/26 (69%). In 8/26 (31%) the main symptom was vaginal lump. 7 (27%) had recurrent urinary tract infections, 4 (15%) had stress urinary incontinence, 3 (12%) had voiding dysfunction and 1 (4%) was asymptomatic. On clinical examination, all patients were found to have a solitary vaginal lump measured between 1-4 cm in dimensions.
Pre-operative assessment included magnetic resonance imaging (MRI) in all patients.
5 (19%) patients did not want surgery. 21 (81%) had trans-vaginal complete excision. Histological examination confirmed the diagnosis of urethral diverticulum in 15/26 (58%) patients, 3/26 (12%) Skene's duct cysts, and 1 (4%) Müllerian cyst and 1 (4%) arterio-venous malformation. There were no significant post-operative complications.
MRI findings did not match the histological diagnosis in 9/26 (35%) patients.
The median follow-up period was 6 months. 10/21 (48%) had complete resolution of their symptoms. 5/21 (24%) had persistent pain and have been treated conservatively by the pelvic floor physiotherapist or pain team, 3/21 (14%) had recurrent urinary symptoms, repeated MRI in 2 of them was negative. 3 are still awaiting follow-up.

CONCLUSIONS

Peri-urethral lesions are uncommon but can be a challenging. MRI can be useful in diagnosis and to plan intervention but in up to one third, the findings did not match the histological diagnosis. Surgical excision will alleviate symptoms with small risk of recurrence of symptoms.

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54 - ANTIMICROBIAL PROPERTIES OF INNOVATIVE TEXTILE TEHCNOLOGY: PRELIMINARY TESTS ON UPEC MICROORGANISMS

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INTRODUCTION AND AIM OF THE STUDY

Urinary tract infections (UTIs) are highly prevalent and are responsible for nearly 7 million office visits and 1 million emergency department visits, resulting in 100,000 hospitalizations/year in the USA [1]. Treating them is challenging due to uropathogens increasing multiresistance. The introduction of innovative strategies aimed at bacterial control in hospital is more than welcome. The availability of tissues with antiseptic activity can represent an additional valid help for the containment of colonizing microorganisms. Aim of the study was to tests in vitro if the Nexus Energy Fiber® NEF (Chimar srl, Presezzo Bg) has an antimicrobial effect compared to the tissues made of pure cotton. The overall antiseptic activity comes from a combination of increased water molecules mobility due to low infrared radiation with the antimicrobial activity characteristic of Ag + ion.

MATERIALS AND METHODS

Two tests were performed. In the **first test** microorganisms responsible for UTIs were used: ATCC strains (*S. aureus* 6538 and *K. pneumoniae* 4352) and others strains coming from clinical isolation (*E. coli, P. aeruginosa, E. faecalis and S. saprophyticus*). In the first test we put the experimental tissue in comparison with normal cotton in contact with the bacterial culture and at the distance of 1 cm. In the **second test** we used exclusively microorganisms coming from clinical isolation: three of witch were isolated from skin infections (*E. faecium, S. aureus,* and *C. striatum*) and three others from UTIs (*K. oxytoca, C. albicans and A. baumannii)* and we put the tissue only at the distance of 1 cm. The assessed incubation time were in both cases 0, 6, 24 and 48 hours. For both tests, positive and negative controls were set up to verify the reliability of the media and to exclude possible contaminations; all tests were performed in triplicate. The antimicrobial effect was expressed as % of different inibition in the CFUs between Nexus Energy Fiber® (NEF®) versus pure cotton by comparing the growth in case of direct contact and remote tests. The analytical procedure for the evaluation of the antimicrobial effect was carried out in accordance with the ASTM standard document E-2180-07 "Determining the activity of incorporated antimicrobial agents in polymeric or hydrophobic materials"[2].

RESULTS

The results of the first test are reported in tables 1 and 2.

Table 1: (test n 1): Direct-contact conditions experiments: antimicrobial effect of Nexus Energy Fiber® versus conventional pure cotton.

	Antimicrobial effect (%) in function of time			
MICROORGANISMS	**0 hours**	**6 hours**	**24 hours**	**48 hours**
***Klebsiella pneumoniae* ATCC 4352**	4.3%	22%	49%	99%
***Staphylococcus aureus* ATCC 6538**	86%	91%	0%	0%
Escherichia coli	13%	35%	51%	37%
Enterococcus faecalis	0%	0%	0%	0%
Staphylococcus saprophyticus	0%	0%	0%	0%
Pseudomonas aeruginosa	0%	0%	0%	21%

Table 2: (test n 1): Remote conditions experiments: antimicrobial effect of Nexus Energy Fiber® *versus* conventional pure cotton.

	Antimicrobial effect (%) in function of time			
MICROORGANISMS	**0 hours**	**6 hours**	**24 hours**	**48 hours**
***Klebsiella pneumoniae* ATCC 4352**	0%	0%	0%	100%
***Staphylococcus aureus* ATCC 6538**	0%	0%	24%	100%
Escherichia coli	0%	0%	0%	70%
Pseudomonas aeruginosa	0%	0%	23.73%	75%

In table 3 the results from the second test are reported.

Table 3: (test n 2): Remote conditions experiments with bacteria strains from clinical isolation: antimicrobial effect of Nexus Energy Fiber® *versus* conventional pure cotton.

	Antimicrobial effect (%) in function of time			
MICROORGANISMS	**0 hours**	**6 hours**	**24 hours**	**48 hours**
Enterococcus faecium	8%	5%	0%	19%
Staphylococcus aureus	0%	0%	0%	0%
Corynebacterium striatum	0%	0%	0%	13.2%
Klebsiella oxytoca	9,2%	2,7%	6,4%	6,75%
Candida albicans	4,8%	0%	28,6%	5%
Acinetobacter baumanii	10%	3,34%	6,2%	10,4%

INTERPRETATION OF RESULTS

In test n.1, placing the tissue in direct contact with microbial cultures, no effect at all was observed on *S. saphrophyticus* and E. *faecalis*. Placing the tissue 1cm far from the colonies NEF® shows after 48h a 100% antimicrobial effect against *K. pneumoniae* 4352 and *S. aureus* 6538 and a bactericidal activity against *E. coli*. (70%) and *P. aeruginosa* (75%).

The effect of NEF® versus pure cotton against microorganisms coming from clinical isolation (test n.2) seems to be weaker. No effect at all was observed for *S. aureus* and some effect was observed after 48 h for all the tested microorganisms except for *Candida albicans* where the highest effect (28.6%) was observed at 24 h with a decline to 5% after 48h of exposure.

CONCLUSIONS

Textile emitting radiation in the infrared spectrum with the addition of Ag + could be promising in term of antibacterial activity. Despite preliminary encouraging results from tests against reference microorganisms (*Staphylococcus aureus* ATCC 6538 and *Klebsiella pneumoniae* ATCC 4352) and some strains from clinical isolate (*E. coli*. and *P. aeruginosa*), more stringent testing with different microorganisms from clinical isolation shows a weak antimicrobial activity of NEF® in comparison with conventional pure cotton fabrics. A mild antimicotic activity is worth to be noticed after 24 hours of exposure and could be of potential interest for future research.

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55 - RISK FACTORS FOR POSTPARTUM URINARY RETENTION

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INTRODUCTION AND AIM OF THE STUDY

Postpartum urinary retention (PPUR) is a puerperal condition defined as the inability to completely void after giving birth. The exact incidence of PPUR is uncertain due to differences in the considered definition among studies. The most common literature definition for overt PPUR is the inability to void over 6 hours after delivery or after catheter removal in case of cesarean section, requiring catheterization with the removal of a volume greater than the bladder capacity. Its pathophysiology is poorly understood and the risk factors for this condition remain uncertain due to the paucity of papers. Since it is often asymptomatic, PPUR can be frequently misdiagnosed. Lack of prompt diagnosis of this condition may lead to severe sequelae, including infection, chronic voiding difficulties and renal failure. Thus, it is of the utmost importance to identify women at greater risk to develop PPUR in order to increase detection rate. The aim of this study was to evaluate the incidence and assess clinical factors that can predict the occurrence of postpartum urinary retention.

MATERIALS AND METHODS

This retrospective cohort study analysed all deliveries from January 2011 to December 2017 in a single Italian University Hospital with approximately 2800 deliveries per year. Data were extracted from a dedicated database software for antenatal care and intrapartum monitoring. Data regarding population characteristics, relevant pregestational situations such as neurologic diseases and recourse to artificial reproductive technology were noted. Interventions such as analgesia and oxytocin use were performed according to specific clinical protocols for delivery care. Partographs were used to monitor labour, woman's position, foetal head degree of flexion and first and second stage times. Instrumental delivery was reserved for usual indications. Neonatal characteristics were noted, and in case of non-singleton delivery data from the first baby were considered. Great attention was paid in the postpartum to identify voiding dysfunction after delivery. Overt PPUR was defined according to previous studies as the inability to void over 6 hours after delivery (or 6 hours after catheter removal), requiring catheterization with the removal of a volume greater than the bladder capacity. Patients who developed PPUR were included in group A, otherwise in group B (controls). Descriptive statistics about population characteristics, antenatal care, labor and delivery variables and fetal parameters were calculated. In order to evaluate a reliable predictive score for the risk of PPUR, we applied a stepwise backward variable selection algorithm based on the Akaike Information Criterion. Among variables, we retained in were significantly associated with the outcome in the univariate analysis. The final model was then used to compute a score for the absolute risk of PPUR. A $p<0.05$ was considered significant.

RESULTS

During the period of interest 18838 records were identified. Out of them, 258 women experiencing urinary retention were identified (Group A) for a given incidence of PPUR of 1.4%. Independent risk factors in the final multivariate model were non-caucasian ethnicity (OR=1.45, CI=1.04-2.02), nulliparity (OR=1.46, CI=1.00-2.13), BMI at the end of the pregnancy < 30 kg/m2 (OR=1.54, CI=1.09-2.16), epidural analgesia (OR=4.00, CI=3.01-5.32), meconium stained amniotic fluid (OR=2.03, CI=1.51-2.72), non-operative vaginal delivery VS cesarean section (OR=6.09, CI=2.10-17.70), vacuum extraction VS cesarean section (OR=8.63, CI=2.81-26.52), pushing stage ≥60 minutes (OR=2.99, CI=2.26-3.96), perineal tear (OR=2.86, CI=1.85-4.42) and singleton delivery (OR=2.69, CI=0.66-11.05). Using our final model, we created a nomogram for PPUR absolute risk calculation (Figure 1). Our score showed a good predictive accuracy: the bootstrap-validated AUC measures were equal to 0.844. According to the ROC curve, the optimal cut-off (i.e. the closest point to the upper-left corner of the plot) to define patients at high risk to develop a PPUR was a score of 143 points.

INTERPRETATION OF RESULTS

This study was aimed to establish the incidence and assess risk factors for postpartum urinary retention in a large population. We found a 1.4% rate of PPUR in our series. Moreover, we identified non-caucasian ethnicity, nulliparity, BMI at the end of the pregnancy <30 kg/m^2, epidural analgesia, meconium-stained amniotic fluid, vaginal non-operative delivery, vacuum extraction, pushing stage ≥60 minutes, perineal tear and singleton delivery as independent risk factors for PPUR. Lastly, we built a user-friendly tool to calculate the absolute risk of PPUR. At the best of our knowledge, this study was the largest about PPUR. Another strength is the high number of variables considered (population characteristics, antenatal data, obstetric interventions, delivery, neonatal characteristics) which consented to identify inedited independent risk factors. In addition, score calculator provides a user-friendly tool to evaluate the absolute risk of PPUR in the clinical practice. A weakness is represented by the retrospective design.

CONCLUSIONS

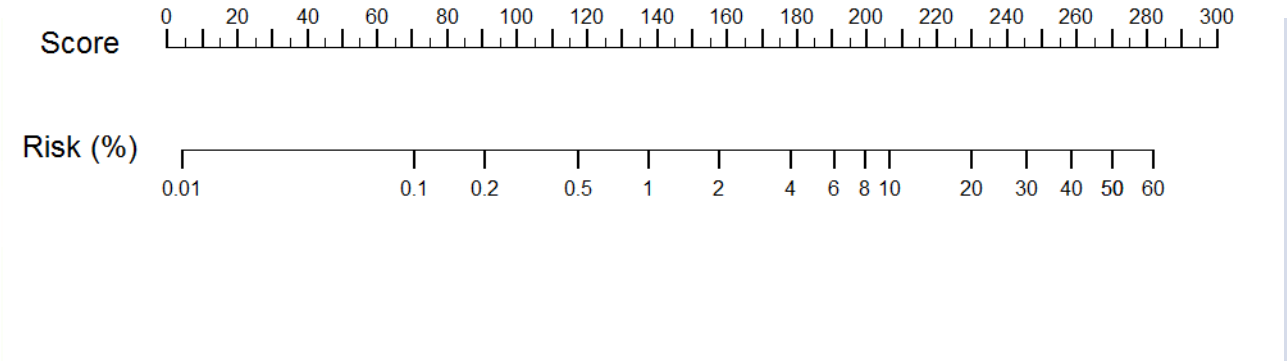
This study identified non-caucasian ethnicity, nulliparity, BMI at the end of the pregnancy <30 kg/m^2, epidural analgesia, meconium-stained amniotic fluid, vaginal non-operative delivery, vacuum extraction, pushing stage ≥60 minutes, perineal tear and singleton delivery as independent risk factors for PPUR.

TABLE 1

Multiple logistic regression model for postpartum urinary retention. ORs with 95% confidence intervals are shown. Score for absolute risk calculation are shown.

Factors	**Adjusted OR (95% CI)**	**p-value**	**Points**
Non caucasian ethnicity	1.449 (1.040;2.018)	0.028	11
Nulliparity	1.461 (1.002;2.130)	0.049	11
Bmi post pregnancy < 30	1.536 (1.094;2.156)	0.013	12
Epidural analgesia	3.999 (3.009;5.315)	<0.001	40
Meconium-stained amniotic fluid	2.027 (1.509;2.722)	<0.001	20
Natural vaginal delivery, vs caesarean section	6.092 (2.098;17.695)	0.001	52
Vacuum delivery, vs caesarean section	8.625 (2.805;26.518)	<0.001	62
Pushing stage ≥ 60 min	2.988 (2.255;3.959)	<0.001	32
Perineal tear / cut	2.858 (1.848;4.419)	<0.001	30
Singleton delivery	2.692 (0.656;11.049)	0.169	29

FIGURE 1 Nomogram for absolute risk calculation



56 - VAGINAL INJURY INDUCES THE EXPRESSION OF ARGINASE I

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INTRODUCTION AND AIM OF THE STUDY: Vaginal wound healing processes are the major determinant of surgical outcome following pelvic reconstructive surgery. Since most surgeries are being performed on middle aged- old women, it is of great importance to find factors that can promote wound healing in aged women (1). Arginase-I metabolize L-arginine into L-ornithine. L-ornithine is a precursor of proline and polyamines, which promote collagen synthesis and cell proliferation, respectively. Both of these processes are key players in tissue regeneration (2). The aim of this study was to examine the role of Arginase-I in postoperative vaginal tissue healing and the effect of aging on its expression.

MATERIALS AND METHODS: A standardized posterior midline vaginal incision was performed on young (2 months old) and old (12 months old) Spargue Dawley (SD) rats. Naïve rats served as controls (n= 5 rats/ group). Rats were sacrificed with an overdose of CO2 at one, three, seven, fourteen and thirty days post incision. The vagina was dissected and fixed with 4% PFA. 6µm cuts were prepared and were taken for histological examination. To charecterize the vaginal wound healing response over time in young and old rats, H&E staining was performed (n= 3 slides/ 5 rats/ each time point). To evaluate the expression of arginase I and cell proliferation, the following primary antibodies were used: anti- arginase I (N-20) (sc-18351), pan-Cytokeratin (AE1/AE3) (sc-81714) and anti-Ki 67, followed by the secondary antibodies: donkey anti goat – 488, donkey anti goat -594, donkey anti mouse- 594 and donkey anti mouse- 488. Analysis was preformed using florescence microscopy.

RESULTS: Both, gross examination and histologic examination of the vaginal wounds over time, demonstrated a clear difference between young and old rats in spontaneous healing following incision (Figure 1A). The aged rats showed an impaired wound closure, demonstrated by a larger wound area per time-point (Figure 1B). Immunostaining to arginase I showed no expression of arginase-I in the naïve rats. However, vaginal incision induced the expression of arginase I in the young vaginal epithelium as early as one-day post-incision (Figure 2A) and a more prononced expression was seen on day 7 (Figure 2B). In the old rats, the expression was delayed and attenuated (Figure 2C-D). This pattern of expression was in accordance with the rate of proliferation of cells in vaginal epithelium, following injury, in both groups.

INTERPRETATION OF RESULTS: These results show, for the first time, the expression of arginase I in the vaginal epithelial cells following an injury. Arginase I is a key player in wound healing and its expression is attenuated in the elderly. Based on our results, we suggest that factors that upregulate arginase 1 expression or activity may improve post-surgical vaginal wound healing.

CONCLUSIONS: Aging is associated with a delayed and attenuated expression of Arginase I in the rat's vagina following injury. These changes correlate with a decreased proliferation rate of epithelial cells - a fundamental stage in tissue regeneration. Arginase I may therefore be a target for future interventions aiming to improve wound healing after pelvic reconstructive surgery.

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Figure 1: Spontaneous vaginal wound healing response in young and old rats
A standardized posterior midline vaginal incision was performed. (A) comparsion between young and old rats in wound healing at the different time points. (B) Differences in wound area on day one and three between yound and old rats.

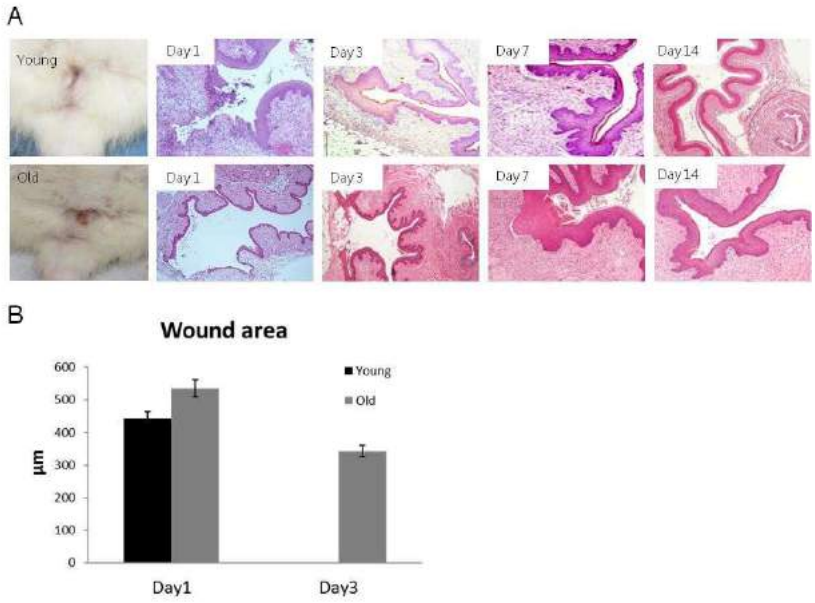
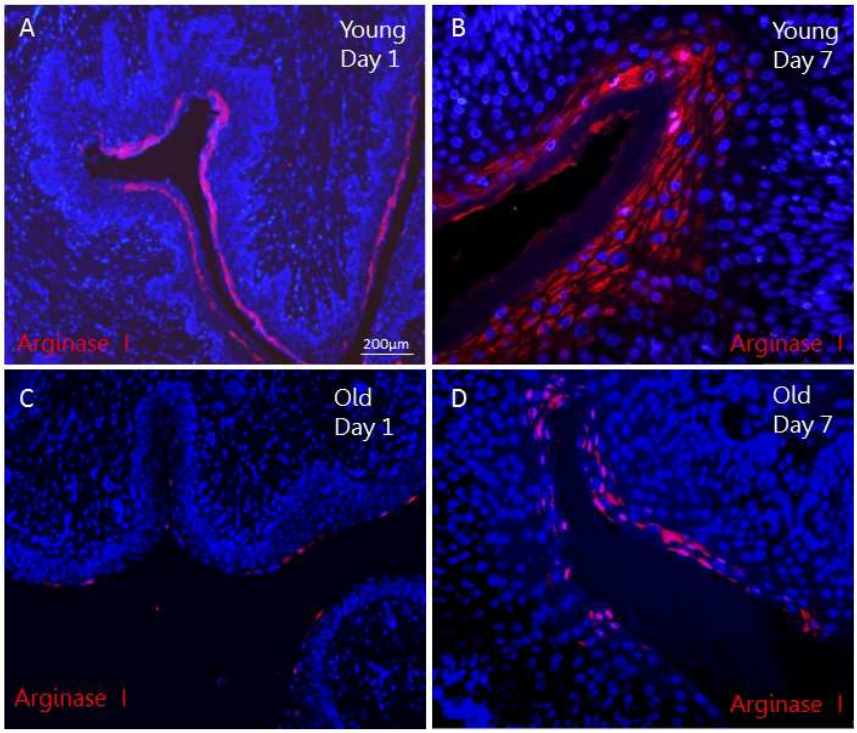


Figure 2: Arginase I expression in the vagina



In the young rats, vaginal incision induced the expression of arginase I as early as one-day post incision (A) and the expression was increased on day 7 (B). In the old rats, arginase I expression was delayed and attenuated (C-D).

57 - EXPLORATION OF LITOXETINE (LTX): A POTENTIAL NOVEL TREATMENT FOR MIXED URINARY INCONTINENCE (MUI)

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INTRODUCTION AND AIM OF THE STUDY

Exploration of Litoxetine (LTX): a potential novel treatment for Mixed Urinary Incontinence (MUI)
LTX is an oral selective serotonin reuptake inhibitor and a multifunctional serotonin agonist antagonist. Serotonin plays an important role in centrally and peripherally modulating the reflexes of continence/micturition; 5-HT potentiates the guarding reflex which allows continence by increasing urethral pressure and inhibiting the micturition reflex. Animal studies [1,2] have confirmed that LTX increases urethral pressure, urethral sphincter activity and bladder capacity. These data support the therapeutic potential of LTX for the treatment of urinary incontinence (UI) and specifically mixed urinary incontinence (MUI). Approximately 35% of women affected by UI suffers from the subtype MUI. As there is currently no medical treatment available for MUI, this represents a significant unmet medical need.

MATERIALS AND METHODS

The study is a double blind randomized placebo-controlled parallel group phase 2 dose ranging study to evaluate the efficacy, safety and tolerability of 3 doses of litoxetine versus placebo BID in women with mixed urinary incontinence (MUI), defined as having at least 7 incontinence episodes per week (at least 3 of which are stress incontinence episodes). The study design includes a 2-week Screening Period; a 2-week, single-blind (subject blind) Placebo Run-in Period and a 12-week double-blind Treatment Period which is followed by a 1-week Dose-tapering Period. The single- blind Placebo Run-In period serves to control for the placebo effect, which is expected to be relatively large in this type of studies. To reduce bias and to estimate more accurate baseline values for efficacy, the number of incontinence episodes at baseline is defined as the average number of episodes recorded in the last seven days of the placebo run-in period.
Efficacy is measured by an electronic diary. The primary efficacy is defined as percentage (%) change from end of the Placebo Run-in Period to Week 12 in the number of incontinence episodes/24 hours, and absolute change from baseline is the lead secondary endpoint. The % change is a traditional and informative measure for responses expected to be small counts, e.g the magnitude of a reduction of 1 episode depends on the baseline measure; a reduction from 5 to 4 episodes (20%) is not as meaningful a change as a reduction from 2 to 1 episodes (50%) although both are 1 absolute episodes.
Patients reported outcomes are measured as secondary variables. To assess the impact of the urinary incontinence status on quality of life the Kings Health Questionnaire is performed throughout the study. To provide additional clinical information on the subjects' condition and change the Patient Perception of Bladder Condition (PPBC) and the Patient Global Impression of Improvement (PGI-I) are used throughout the study as global measures for bladder function and to assess patient perception of severity and symptom change.
Safety and tolerability are assesed throughout the study.

RESULTS

144 female subjects aged 18-75 years of age, of 195 subjects estimated to be randomized, suffering from MUI for at least 3 months are included in this blinded review of baseline characteristics and safety information. Patient recruitment is highest in Ukraine, followed by Georgia, Poland, Canada, UK and France.
Baseline characteristics of the study population show:

Parameter	Mean (SD)
Age (years)	56±12
BMI (kg/m^2)	27.6±3.1
Number of all incontinence episodes over 7 days	43.9±21.9
Number of urge episodes over 7 days	31.8±19.8
Number of stress episodes over 7 days	21.1±11.1

The blinded assessment of baseline characteristics does not suggest any differences in the patient population across sites or across the participating countries. The patients report a significant degree of incontinence at baseline. The data also suggest that the patient population is willing, capable and competent to use a hand held electronic device for recording of the patient reported outcomes.

A blinded safety review of treatment emergent adverse events (TEAE) revealed that 43 subjects reported 75 TEAEs. One of these events (somnolence) was reported as an SAE. Five subjects were discontinued from blinded study medication due to TEAEs: the serious event of somnolence reported above; events of

vomiting, nausea, hyperhidrosis, rash and weakness in 1 subject; tachycardia in 1 subject; dizziness, asthenia, and hypoesthesia in 1 subject; and migraine and dyspepsia in 1 subject - all of the events resolved. The most frequently reported TEAEs were nausea (8 subjects, 5.9%), somnolence (5 subjects, 3.7%), diarrhoea (4 subjects, 2.9%), and asthenia/fatigue (4 subjects, 2.9%), followed by dry mouth, vomiting, urinary tract infection, headache and insomnia (3 subjects, 2.2% each).

INTERPRETATION OF RESULTS

The study started in Q1 2017. The baseline data reported correspond to 75% of the targeted study population to be recruited. These baseline assessments show a random variability, without a trend for site or country variability. Blinded review of adverse events suggest LTX treatment in the female patient population suffering from MUI seems safe and tolerated.

CONCLUSIONS

These are the first clinical data obtained with LTX in a development program for UI. To date, the blinded data safety review from 144 randomized subjects in the phase 2 study suggests that nausea is the most commonly reported TEAE, and blinded treatment seems to be well tolerated; 3.5% of randomized subjects discontinued the study early due to a TEAE.

The authors are indebted to all participating patients and investigators.

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58 - VAGINALLY ASSISTED LAPAROSCOPIC SACROPOLPOPEXY: MINIMALLY INVASIVE SACROCOLPOPEXY MODIFICATION FOR BEGINNERS

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INTRODUCTION AND AIM OF THE STUDY

Abdominal sacrocolpopexy with concomitant hysterectomy is often considered gold standard treatment for utero vaginal prolapse[1]. The sacrocolpopexy has been performed for many years with several modifications. Ongoing innovations and developments in minimally invasive surgery led to the introduction of laparoscopic and later robotic-assisted laparoscopic approaches to abdominal sacrocolpopexy. The laparoscopic approach has potential advantages in terms of reduced morbidity, shorter hospital stay and convalescence. Laparoscopic sacrocolpopexy requires extensive tissue dissections, manipulations and suturing, laparoscopic surgery skills. Surgeons witl less experinece in laparoscopic pelvic surgery and suturing can results in supoptimal, time consuming and difficult operations susceptive to complications.
Vaginally assisted laparoscopic sacrocolpopexy (VALS) is a combined surgical approach where a vaginal hysterectomy is initially performed, followed by a transvaginal placement of a synthetic mesh and is concluded with a laparoscopic suspension of the vaginal vault on the sacral promontory. von Pechmann et al. first described the procedure and showed the safety and shortterm anatomical outcomes in a pilot study[2]. The objective of this study was to compare the short-term anatomic outcomes, complication rates, and operative times of patients with uterovaginal prolapse undergoing VALS with those of patients undergoing abdominal sacrocolpopexy

MATERIALS AND METHODS

This is a prospective cohort study comparing VALS method to abdominal sacrocolpopexy with concurrent hysterectomy in patients advanced symptomatic utero vaginal prolapse stage 3 or 4 according to Pelvic Organ Prolapse Quantification (POP-Q) system. We recorded operation times, anesthesia time, estimated blood loss, outcomes, peroperative and postoperative complications.
The VALS procedure consists of two steps.First, vaginal hysterectomy performed, anterior vaginal wall dissected up to bladder neck starting from initial vaginal incision, posterior vaginal wall dissected from rectum starting from initial vaginal incision up to distal third of posterior vaginal wall. Two 15 cm long, 3 cm wide type 1 polypropylene meshes transfixed to anterior and posterior vaginal wall with 4-6 polyglactin suture to each wall. The sutured meshes are placed inside the pelvic cavity and the vaginal vault is closed with absorbable polyglactin suture. Mid urethral sling and/or perineoplasty were performed vaginally before laparoscopy. Laparoscopy was performed with one intraumbilical (10 mm), 3 lateral abdominal (5 mm) trocars. The sacral promontory is identified and the overlying peritoneum
is opened up to vaginal cuff laterally to the rectum and medially to the right uterosacral ligament. Two meshes fixated to anterior longitudinal ligament of the sacrum with with two separate 3/0 polypropylene sutures without tension. The mesh was then reperitonealized with absorbable interrupted extracorporeal sutures.
Abdominal sacrocolpopexy was performed via Pfannenstiel incision after total or subtotal abdominal hysterectomy. Sacrocolpopexy was performed similiar to laparoscopic scarocolpopexy.

RESULTS

Twenty one women underwent VALS, and 24 women underwent abdominal sacrocolpopexy. The mean follow up was 22 months for AS group and 13 months for VALS group. Hospitalization duration was shorter for the VALS group (median 2 (1-3)days) than As group (median 3 (2-8) days) ($p<0.0001$). There was no significant difference in peroperative complication rate omplication rates (12.5% vs none, $p=0.09$), blood loss (mean hemoglobin loss in VALS 1.7 g/dl, AS 1.6g/dl, $p=0.7$) postoperative complication rates (20.8% vs 4.8%, $P = 0.1$), mesh extrusion rates (12.5% vs 4.8%,$p=0.3$), and recurrence (%4.2 vs none, $p=0.3$). The mean total operative time and anesthesia time were similiar (operation times; VALS group 134.8 ±45.4, AS group minutes 151.2 ±40.1, anestheisia time; VALS group 181.3 ±45.4, As group 183.9 ±44.3 ($p=0.8$)).

CONCLUSIONS

There was no significant difference in short-term anatomic outcomes or complication rates between VALS and conventional abdominal sacrocolpopexy. VALS was associated with significantly shorter hospitalization than conventional abdominal sacrocolopexy concomitant with hysterectomy. VALS can be a promising modification mininmally invasive technique for sacrocolpopexy especially for inexperineced in laparoscopic sacrocolpoopexy, urogynecology fellows and residences.

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	VALS (n=21)	**AS** (n=24)	p
Age, mean± SD *, years	59.3 ±10.7	61.3 ±11.9	0.5
Gravidy, median (range) †	4 (2-11)	3 (1-13)	0.4
Parity, median (range) †	3 (2-9)	3 (1-7)	0.6
Menopause Status, n (%)‡	15 (71.4)	19 (79.2)	0.5
Comorbity, n (%)‡	9(42.9)	8 (33.3)	0.5
POP-Q Stage 3 Prolapse, n (%)‡	10 (47.6)	10 (41.7)	0.6
POP-Q Stage 3 Prolapse, n (%)‡	11 (52.4)	14 (58.3)	0.6

Table 1: Baseline demographic data of women undergoing VALS. VALS indicates Vaginally assisted vaginal hysterectomy; AS, Abdominal sacrocolpopexy; *Student t test, †Mann-Whitney U test, ‡Fisher exact test.

	VALS (n=21)	**AS** (n=24)	p
Operation time, mean± SD *, minutes	134.8 ±45.4	151.2 ±40.1	0.2
Anesthesia time, mean± SD *, minutes	181.3 ±45.4	183.9 ±44.3	0.8
Concomitant procedures MUS Perineoplasty Subtotal Hysterectomy	4 (16.7) 1 (4.2) 3 (12.5) 5 (20.8)	2 (9.6) 1 (4.8) 1 (4.8) 0	0.6
Hospitalisation time, median (range) †, days	2 (1-3)	3 (2-8)	**<0.0001**
Early Complications, n (%)‡	0	3 (12.5)	0.09
Late Complications, n (%)‡	1 (4.8)	5 (20.8)	0.1
Blood transfusion, n (%)‡	1 (4.8)	0	0.2
Mesh extrusion, n (%)‡	1 (4.8)	3 (12.5)	0.3
De Novo urinary incontinence, n (%)‡	5 (23.8)	3 (12.5)	0.3
Drop in hemoglobin, mean± SD *, g/dl	1.7 ±0.8	1.6 ±1	0.7
Drop in hemotocrit, mean± SD *	6 ±2.7	5.4 ±2.9	0.5
Recurrence, n (%)‡	0	1 (4.2)	0.3
Anatomic failure, n (%)‡	0	2 (8.3)	0.1
Subjective failure, n (%)‡	0	2 (8.3)	0.1

Table 1: Perioperative and postopoerative outcomes. VALS indicates Vaginally assisted vaginal hysterectomy; AS, Abdominal sacrocolpopexy;MUS, Mid urethral sling. *Student t test, †Mann-Whitney U test, ‡Fisher exact test. Bolding indicates statistically significance

59 - RELATION BETWEEN PREGNANCY-RELATED PELVIC GIRDLE PAIN AND SYMPHYSIS PUBIS DISTENTION

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INTRODUCTION AND AIM OF THE STUDY

Pregnancy-related pelvic girdle pain (PPGP) is a common musculoskeletal disorder that localized from the level of posterior iliac crest and the gluteal fold over the anterior and posterior elements of the bony pelvis. PPGP is affect approximately 20% of all pregnant women[1]. The exact development mechanisms of PPGP is uncertain.

Some theories about development of PPGP are related to hormonal, biomechanical, traumatic, metabolic, genetic and degenerative mechanisms. The levels of relaxine and progesterone have not been shown to correlate with the degree of PPGP. The biomechanical theory is separation of the symphysis pubis (≥10 mm) as an important threshold[2]. The symphysis pubis joint is a fibrocartilaginous structure which holds the pelvis together and keeps them steady during activity.

Symphysis pubis dysfunction occurs when the joint becomes relaxed to allow instability in the pelvic girdle and symphysis pubis may rupture in severe cases. The distance of non pregnant woman's symphysis pubis is 4–5 mm and widening of 2–3 mm is normal during last trimester of pregnancy. The average distance of symphysis pubis during the last two months of pregnancy is 7,7 mm with a range of 3–20 mm; 24% of women have a gap greater than 9 mm. The gap increases to more than 10 mm is known as diastasis of the symphysis pubis[3]. The aim of the study was to investigate relationship between severity of pregnancy-related pelvic girdle pain and symphysis pubis diastasis by three-dimensional (3D) transperineal ultrasound imaging

MATERIALS AND METHODS

The study was conducted at the department of Obstetrics and Gynecology of the University Hospital. All patients who suffered from PPGP during the study period were potentially eligible for inclusion in the study. Parameters such as age, weight, height, body mass index, and gestational week were recorded in each patient. Women who were less than 18 years of age and had a history of major systemic bone disease and/or pelvic trauma were excluded.

Severity of pregnancy-related pelvic girdle pain is determined by The Pelvic Girdle Questionnaire. 3D transperineal ultrasound examinations which is described by Aydın S. et. al. are performed using a GE Voluson 730 equipped with RAB 4- to 8-MHz curved array 3D transducer. Women were placed in a supine position with an empty bladder. The probe was covered with a sterile film and placed on the perineum with minimal pressure in the midsagittal plane. Then the probe was moved over the symphysis pubis. When we obtained the whole echo of the pubic shaft, we obtained the 3D images. Images are completed with an acquisition angle of 85° and a maximum field of view of 70° in the sagittal plane. The distance between the two pelvic bones was measured by two points of the SP joint: widest and narrowest parts of the joint.

RESULTS

There were 15 participants in PPGP group and control group. Demographic data and gestational weeks were similar. Weight (75.6 ±7.3 in PPGP group, 68.9 ±8.3 in controls) and body mass indexes (28.8 in PPGP, 26.6 in controls) of women were significantly high in PPGP group. Symphysis pubis distance were wider in which group of suffering from PPGP (9.94 ±1.05) comparing to control group (8.54 ±1.4) (p:0.04). We found positive correlation with wider SP width and Pelvic Girdle Questionnaire score (r=0.49, p=0.005). There was no correlation between other measurements and Pelvic Girdle Questionnaire score

CONCLUSIONS

This study suggests that pregnant women which had high pelvic girdle pain score have wider symphysis pubis. Widening of symphysis pubis could take place etiology of PPGP.

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	PPGP Group N:15	Control Group N:15	p value
Age, years (mean±SD)	24.1 ±4.1	26.3 ±4.6	0.2
Gravidy (median, range)	2 (1-4)	1 (1-3)	0.3
Parity (m median, range)	1 (0-3)	0 (0-2)	0.4

Gestational week (mean±SD)	27.9 ±4.1	28.4 ±6.8	0.8
Height, cm (mean±SD)	162 ±5.1	160.8 ±5.7	0.5
Weight, kg (mean±SD)	75.6 ±7.3	68.9 ±8.3	0.03
BMI (mean±SD)	28.8 ±3.3	26.6 ±2.4	0.04
Survey Score (mean±SD)	46.4 ±10.4	16.5 ±6.1	<0.0001

Table 1: Comparasion of patient characteristics and survey scores between PPGP and control groups. PPGP; Pregnancy related Pelvic Girdle Pain, BMI; Body Mass Index. Bolding indicatesstatistical significance.

	PPGP Group N:15	**Control Group N:15**	**p value**
Wide SP width, mm (mean±SD)	9.94 ±1.05	8.54 ±1.4	0.04
Narrow SP width, mm (mean±SD)	7.13 ±1.66	6.54 ±1.1	0.2
SPL length, mm (mean±SD)	37.61 ±9.54	41.93 ±8.13	0.2
SP height,mm (mean±SD)	37.24 ±7.13	39.06 ±6.79	0.7

Table 2: Comparasion of sypmphysis pubis measurements between PPGP and control groups. PPGP; Pregnancy related Pelvic Girdle Pain, SP; symphysis pubis, SPL; superior pubic ligament. Bolding indicates statistical significance.

	r (Pearson Correlation Coefficient	P
Wide SP width, mm (mean±SD)	0.49	0.005
Narrow SP width, mm (mean±SD)	0.15	0.4
SPL length, mm (mean±SD)	-0.27	0.1
SP height,mm (mean±SD)	-0.28	0.1
Weight	0.14	0.4
BMI	0.12	0.7

Table 3: Correlations between SP measurements and The Pelvic Girdle Questionnaire score. r=Pearson correlation coefficient; P=probability (two-tailed significance). BMI; body mass index, SP; symphsis pubis, SPL; superior pubic ligament. Bolding indicates statistical significance.

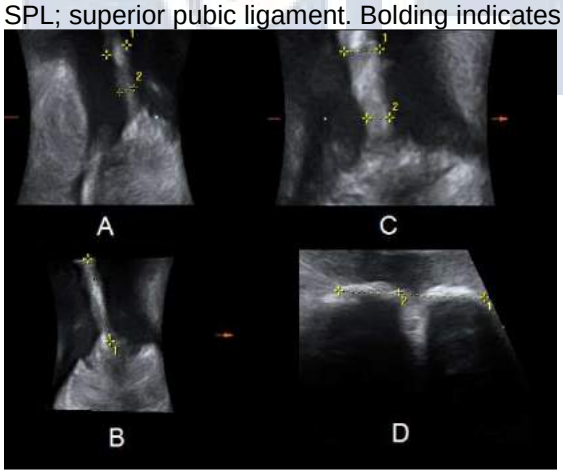

Figure 1: Three dimensional (3D) views of symphysis pubis (SP). (A, C) measurement of the wide and narrow SP distention; (B) SP length; (D) superior pubic ligament (SPL).

60 - LAPAROSCOPIC LATERAL SUSPENSION WITH MESH AS AN INNOVATIVE SURGICAL TECHNIQUE FOR PELVIC ORGAN PROLAPSE REPAIR

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INTRODUCTION AND AIM OF THE STUDY

Laparoscopic lateral suspension with mesh (LLS) could be a feasible and effective technique in women who undergo surgery for pelvic organ prolapse (POP), particularly to those who complain an anterior and apical compartments prolapse. In our retrospective research we analyzed a group of patients treated with this innovative surgical approach and evaluated anatomical and clinical outcomes.

MATERIALS AND METHODS

The sample of the study is composed by n.48 patients affected by pelvic organ prolapse, who underwent LLS with mesh from May 2016 to April 2018 in two different Hospital Unit: n.23 in the Department of Obstetric and Gynecology of an University Hospital and n.25 in the Proctologic Surgical Unit of another Hospital.

The preoperative evaluation consisted of an interview, questioning about quality of life (QoL), urinary, sexual and bowel disorders, and a gynecological visit. The International Consultation on Incontinence Questionnaire Short form (ICIQ-SF) has been used to subjectively quantify the patient perception of the severity of the stress and urge urinary incontinence and the Kings Health Questionnaire (KHQ) to evaluate the impact of prolapse on QoL. Vaginal prolapse was staged according to the Pelvic Organ Prolapse Quantification System (POP-Q) and the Half Way System with the patient in lithotomy position. They were performed the day before surgery and 1, 3, 6, 12, 24 months after surgery. The success rate of the surgery was assessed following criteria proposed by literature.

The surgical procedure has been performed laparoscopically (a 3-mm skin incision was made on both sides 2 cm above the iliac crest) under transperitoneal visualization, performing retroperitoneal tunneling with a grasping forceps, and pushing it toward the round ligament at the level of its lateral peritoneal insertion. After entering the peritoneal cavity, the side arms of the mesh was retracted the same way backwards and the tension adjusted. The central mesh part was attached to the upper third of the anterior fornix with an absorbable suture thread and to the cervix with non-absorbable suture thread. The side arms are then cut at the level of the skin and attached to the lateral abdominal wall. The peritoneum is closed over the graft in order to cover it completely. Some patients were treated for posterior compartment prolapse by vaginal posterior colporrhaphy.

The mesh introduced was different in the two Hospitals: in N. 23 patients a polypropylene mesh has been placed, instead in N. 25 women was used a titanium-coated polypropylene device.

RESULTS

We enrolled n.48 patients from May 2016 to April 2018.

All of them completed at least 1 month follow-up, no patients were lost. N.44 women had a 3 month follow-up, n.42 a 6 month follow-up, n.24 had a 12 month follow-up and n.5 had a 24 month follow-up.

Mean age was 62 years old and mean Body Mass Index (BMI) was 24 in both groups. N.41 women were in postmenopausal status and the mean time from menopause was 14 years. N. 7 patients were previously hysterectomized.

According to the POP-Q system with the pre-operative evaluation we classified 37.5% of patients at the stage 2, 56.3% at the stage 3 and 6.2% at the stage 4. Median POP-Q value of the total population was 3. After 12 months no patient showed a POP-Q stage 4, but 29.2% was classified at the stage 0, 41.6% at the stage 1, 25% at the stage 2 and 4.2% at the stage 3, with a median POP-Q value of the total population of 1.

At the moment of the first visit the most bothering symptom reported was bulging (50%).

35% of women from the cohort of the first hospital were sexually inactive when they were enrolled. After 12 months this percentage reached 15%.

N.23 people underwent a LLS using a polypropylene mesh, whereas in n.25 women a titanium-coated polypropylene device was placed. This kind of surgery was performed alone in 65% of the cases, while in 35% of women it was completed with an addictional gynecologic surgery (bilateral ovarosalpingectomy) or an uro-gynecologic intervention (Trans-Obturator-Tape placement, prolassectomy, colpoperineoplasty). The mean operative time was 104 minutes and the mean hospital stay was 3 days.

No severe intraoperative complications occurred. Early postoperative complications included only a case of urinary tract infection treated with intravenous antibiotics. In n.4 cases a mesh complication was observed:

n.3 patients needed a mesh re-fixation to the vagina after 6 months and 1 patient underwent a surgical removal of an abdominal wall stitch granuloma. No mesh erosions or extrusions were observed.

INTERPRETATION OF RESULTS

The clinical evaluation performed using the POP-Q system showed an improvement of the median values until the 12th month, which was statistically significant in comparison with the pre-surgical condition ($p<0.001$, Tukey test). Moreover, the POP-Q values obtained at every follow-up were never worse than the score calculated before the surgery. The Half Way system assessment showed the same results for all the anatomical compartments, except from the posterior one (Tukey test) because of the new appearance of a posterior vaginal prolapse that worsened itself the clinical evaluation (POP-Q≥0) that was detected in 10 people after 12 months (in 12.5% of people appeared a de novo posterior prolapse).
The most bothering symptom (bulging) was referred by a subgroup of people whom POP-Q median value was 3. After the surgery it improved (50% vs 13% at the 12th month, $p< 0.02$) but persisted in those women whose clinical evaluation was worse compared to the total population (median POP-Q of the bulging group=2 vs median POP-Q of the total population=1).
Sexual activity increased in the cohort of women enrolled in the first group from 65% to 85% after 12 months ($p=0.1$).
Considering the QoL evaluated with the KHQ, an enhancement in the global score and in every compared to the pre-surgical assessment, was seen at each subsequent visit ($p<0.001$, Tukey test).
Using proposed criteria for defining success after surgery for pelvic organ prolapse, in our experience we observed that the LLS technique showed a surgical success when it was defined as the absence of prolapse beyond the hymen was definitively achieved by ≥90% of people, only considering the anterior and the apical compartments. Subjective cure (absence of bulge symptoms) occurred in 87% of the women.
Based on recent International Urogynecological Association/International Continence Society (IUGA/ICS) POP outcome guidelines the 1-year rate of recurrence of our population was 12,5% (6,2% rate of anterior recurrence, 2% of anterior and posterior recurrence and 4,1% of anterior persistence). The 1-year rate of reoperation was 6,2%.

CONCLUSIONS

In our experience LLS is a safe technique with promising results in terms of a composite outcome, low complication rates and a 12-24 months patient satisfaction. However, a larger number of patients and a longer follow-up is needed with aim to compare our efficacy data with literature.

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61 - *LAPAROSCOPIC HYSTERO-SACROCOLPOPEXY WITH LOW VENTRAL RECTOPEXY FOR COMBINED RECTAL AND GENITAL PROLAPSE: A SINGLE-INSTITUTION RETROSPECTIVE STUDY EVALUATING SURGICAL OUTCOME*

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INTRODUCTION AND AIM OF THE STUDY

Laparoscopic Hystero-sacrocolpopexy (LSC) with Low ventral Rectopexy (LVR) is advocated for combined rectal and genital prolapse. The purpose of this study is to evaluate indications and outcomes of laparoscopic LSC with LVR by comparing pre and post-operative function and quality of live. In our knowledge it is the first publication evaluating the anatomical and functional results of the two procedures combined.

MATERIALS AND METHODS

A retrospective review of prospectively collected data was performed of all patients undergoing Hystero-sacrocolpopexy with rectopexy in our institution from June 2009 to June 2018. Pre- and post-operative data referring to international pelvic organ prolapse quantitation classification (POP-Q), scores of quality of life and sexuality (French equivalent of the Pelvic Floor Distress Inventory (PFDI), Pelvic Floor Impact Questionnaire (PFIQ) and Pelvic organ prolapse-urinary Incontinence-Sexual Questionnaire (PISQ-12) were compared. Two hundred and ten patients were treated for genital prolapse by conventional LSC. The majority of patients underwent Dynamic-MRI to confirm the genital prolapse and the association with occult rectal prolapse. To treat the patients two large pore size (≥1mm) heavyweight (19g/m^2) monofilament polypropylene prostheses (coloplast® Group, Restaurelle Implant) were exclusively used for this technique. The protheses were fixed on the posterior and anterior face of the vagina with absorbable sutures (Ethicon Vicryl Polyglactin 910 ® 2-0, 26 mm, ½c) and on the sacrum with permanent sutures (Mersuture 1). For the patients with mixed prolapse (genital prolapse and external rectal prolapse or occult rectal prolapse with anal incontinence and/or obstructed defecation) the mesh was fixed on the anterior face of the rectum with absorbable sutures Vicryl 2-0 (Ethicon Vicryl Polyglactin 910 ® 2-0, 26 mm, ½ c). The patients were contacted and completed postal questionnaires more than one year after surgery and had a follow up in our department.

RESULTS

A total of 360 women (median age 55 years, range (28 - 86), underwent LSC for genital prolapse, 52 of them had a mixed prolapse, with occult rectal prolapse and anal incontinence and/ or obstructed defecation (n=48) or external rectal prolapse (n=4). In these cases, LSC and LVR were performed. In this population no concomitant hysterectomy was performed. Complications included pre-sacral bleeding (n=1), and phlebitis (n=1). There were no mortalities. With a mean follow-up of 46.7 months (range 4-190), all the patients were accessible for evaluation. Pre-operatively, 81% reported constipation, post-operatively 34% reported resolution or improvement, bowel symptoms severity was measured with the CRADI of the PFDI and demonstrated improvement (67-23, $p<0.001$). Fecal incontinence, measured by Wexner score, was significantly improved (12-2; $p< 0.01$), 82% of patients reported cure or improvement. Quality of live scores improved significantly. No patient developed recurrent rectal or genital prolapse.

INTERPRETATION OF RESULTS

This study is limited by the Retrospective methodology

CONCLUSIONS

Combined LSC and LVR to treat apical and posterior compartment is safe, improve bowel symptoms, and prevent the recurrences.

62 - THE SHEEP AS A MODEL FOR VAGINAL ATROPHY

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of menopause is a debilitating disease. A large animal model for preclinical testing of novel therapies such as laser treatment may be useful. Sheep have been already used as a model for disorders related to the menopause like osteoporosis and cardiovascular disorders. We aimed to document vaginal changes up to 160 days after artificially induced menopause, as spontaneously aging animals with ovarian failure are not available to us.

MATERIALS AND METHODS

Eight sheep underwent ovariectomy. Vaginal biopsies were performed 60 and 160 days after ovariectomy. Primary outcome was vaginal epithelial thickness (H&E). Secondary outcomes included other indicators of atrophy, i.e. vaginal health index, pH, cytology, morphology (glycogen (PAS), collagen (Masson Trichrome), elastin (Miller),vasculature (CD34), innervation(PGP 9.5), mitosis(Ki67), apoptosis(TUNEL)) and microcirculation focal depth.

RESULTS

In sheep 160 days after ovariectomy we documented a significant decrease in epithelial thickness, in vaginal health index, microcirculation focal depth, glycogen, elastin content and vasculature, and an increase in pH (Table 1, Figure 1).

INTERPRETATION OF RESULTS

The vaginal epithelial thickness sixty days after ovariectomy fell within the range of premenopausal sheep of the same age in previous experiments (40-180µm)[1,2]. This was much thinner 160 days after ovariectomy. The ewe can be considered as a model of genitourinary syndrome of the menopause. However at 60 days after ovariectomy atrophy is still partial, as it actually increases later on.

CONCLUSIONS

Following artificial menopause, ewes displayed progressive changes between 60 and 160 days, including a decrease in epithelial thickness, in vaginal health index, microcirculation focal depth, glycogen, elastin content and vasculature, and an increase in pH.

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Table 1: Outcome measurements to document effect of ovariectomy. * $p<0.05$

		Distal vagina	
Day after ovariectomy		60 days	160 days
Epithelial thickness (µm)		**76.0±3.8***	**30.5±10.1***
Collagen (%area stained)		50.2±4.9	59.9±6.6
Elastin (% area stained)		**6.6±5.1***	**2.2±0.9***
Glycogen layer (µm)		**10.3±4.4***	**2.4±0.4***
Blood vessels (%area stained)		**11.9±2.2***	**5.6±1.8***
Nerves (%area stained)		0.4±0.2	0.5±0.3
Mitosis (%area stained)	Epithelium	3.0±1.4	2.3±1.7
	Lamina propria	0.0±0.01	0.2±0.1
Apoptosis(%area stained)	Epithelium	2.2±1.5	3.6±2.7
	Lamina propria	0.6±0.2	0.5±0.5
Vaginal health index		**17.8 ± 1.0***	**15.5 ± 0.9***
pH		**6.8± 0.1***	**7.7±0.3***
Smear superficial cells (%)		7.7±10.9	0.0±0.7
Smear intermediate cells (%)		45.8±18.9	43.8±20.8
Smear parabasal cells (%)		46.5±23.9	54.0±19.9
Microcirculation focal depth		**144.5±19.5***	**60.8±15.4***

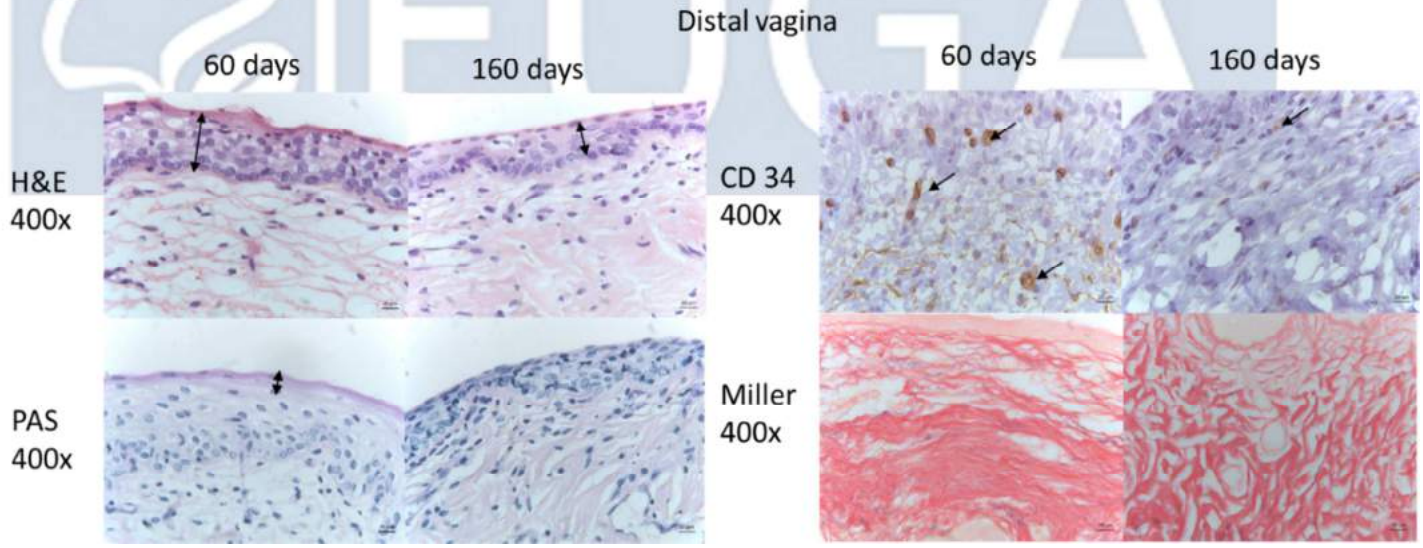

Figure 1: Representative figures of distal vagina 60 and 160 days after ovariectomy. Arrows in H&E figures mark epithelial thickness. In the PAS stain 60days arrow mark the layer of epithelium containing glycogen. At 160 days in some specimens the glycogen was virtually not demonstrable. Brown stain (arrows) in CD34 stains visualize blood vessels. Miller stains the elastin fibers dark blue. The specimens are always oriented the epithelium facing up, magnification 400x.

63- CHANGE IN INTRAABDOMINAL PRESSURE AFTER PELVIC ORGAN PROLAPSE RECONSTRUCTIVE SURGERY IN PATIENTS WITH SEVERE UTEROVAGINAL PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Intra-abdominal pressure (IAP) was defined as the steady state pressure concealed within the abdominal cavity. Intra-abdominal pressure (IAP), intra-abdominal hypertension (IAH), and the abdominal compartment syndrome and pathophysiology has become the focus of attention in many disciplines. A normal IAP varies from sub-atmospheric values to 7 mmHg in normal weight individuals, with higher baseline levels in morbidly obese patients of about 9 to 14 mmHg[1]. Intra-abdominal hypertension (IAH) is defined as a sustained increase in IAP ≥ 12 mmHg The adverse physiologic effects of increase intraabdominal pressure impact pulmonary, cardiovascular, renal, splanchnic, musculoskeletal and central nervous systems[2]. However little concern has been dedicated to the potential importance of the structure of the abdominal compartment and its compliance. Abdominal compliance is defined as a measure of the ease of abdominal expansion, which is determined by the elasticity of the abdominal wall and diaphragm. The abdomen may be considered a closed box. This box has rigid structeres, spine and pelvic bones, partially flexible sides of abdominal wall and diaphragm. Levator hiatus is the opening of this closed box to atmosphere. Pelvic organ prolapse might be the consequences of compensation of abdominal compliance to chronic increased intraabdominal pressure. We hypothesized that we disturb this feasible compensation with relatively stable reconstructive procedures like sacrocolpopexy or colpocleisis. The aim of this study was to evaluate the effect of pelvic reconstructive surgery in patients with severe uterovaginal prolapse on intraabdominal presurre. The correlation between patient characteristics and IAP was evaluated.

MATERIALS AND METHODS

IAP was measured by a single investigator at preoperatively before pelvic organ prolapse reconstriction procedure. Measurements were performed before any general or spinal anaesthesia. The second measurement was performed 12 week after operation. IAP measurements were obtained with the patient in fully supine position without head of bed elevation and at the end of expiration, according to the recommendations by the World Society of the Abdominal Compartment Syndrome (WSACS)[3]. The mid-axillary line at the level of the iliac crest was used as zero-reference point.
IBP was measured using a Foley Manometer Low Volume (Holtech Medical, Charlottenlund, Denmark). In case of an empty urinary bladder or the presence of air-bubbles obstructing a continuous fluid column in the FMLV, 50 ml of 0.9% sterile sodium chloride solution was injected via the sample port. The urinary bladder catheter was clamped distal to the port to ensure an open pressure conductive fluid column. When fluid in column stabilized corresponding value of IAP was recorded. Intra-abdominal hypertension is defined by an elevation in IAP ≥ 12 mmHg.
Two sided paired student's t-test was used for to compare the IAP values before and after the pelvic recponstrictice surgery as sacrocolpopexy and colpocleisis.

RESULTS

Thirteen women with stage 3 or utero-vaginal prolapse 4 according to Pelvic Organ Prolapse Quantification (POP-Q) system. Mean IAP was significantly higher after pelvic reconstructive surgery (5.6 ± 2.4 mmHg) than before surgery (8.6 ± 2.5 mmHg) (p=0.001). Age, weight, body mass index, waist circumference of patient or type of operation did not correlate with preoperative or postoperative intraabdominal pressure. IAP of seven (53.8%) patients raised over 7 mmHg, 2 of 13 (15.3%) had Intraabdominal hypertension.

CONCLUSIONS

IAP significantly increases after pelvic reconstructive surgery to normal values after delivery. Increased intraabdominal pressure after reconstructive pelvic surgery may be associated with long term unfavorable health consequences. The realtion of increased intraabdominal pressure and pelvic organ prolapse should be evaluted with well designed studies.

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64 - FUNCTIONAL MAGNETIC STIMULATION IN THE TREATMENT OF URINARY INCONTINENCE IN WOMEN

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INTRODUCTION AND AIM OF THE STUDY

Undesired, uncontrolled leakage of urine occurs when the sphincter muscles, the muscles of the pelvic floor and bladder muscles do not work properly and consistently. Pelvic floor muscles training (PFMT) is a first-line conservative treatment for all types of incontinence in women. Functional magnetic stimulation (FMS) allows automated and standardized pelvic floor muscles training.

During magnetic therapy, a focused, time-varying magnetic field penetrates into the perineum and activates the motor neurons of the pelvic floor muscles. The pelvic muscles contract and relax with each magnetic pulse, thereby strengthening the muscles. The goal of the therapy is the rehabilitation of the pelvic floor musculature to reduce urinary incontinence.

MATERIALS AND METHODS

From 57 women included in the study of effects of an FMS, 15 suffered from urge urinary incontinence (UUI), 25 from stress urinary incontinence (SUI), 17 from mixed urinary incontinence (MUI). All patients were treated with FMS twice a week for 8 weeks (16 therapies in total) using the treatment protocol adequate for the type of urinary incontinence. The results were obtained using a patient self-evaluation questionnaire and collected before starting the treatment and after finishing the last therapy.

The patient seated dressed on an electromagnetic chair. It was used Magneto Stym device, Iskra Medical, with magnetic field power of 2 Tesla and frequency range of 1-80 Hz. Magnetic stimulation of the muscles is conducted by an electromagnetic coil built into the seat and controlled by an external unit. The stimulus intensity is gradually increased up to the limit of tolerability as indicated by the patient.

FMS is not appropriate for patients with a history of epilepsy, severe cardiac arrhythmias, a pacemaker or metal implants, as well as concurrent pregnancy, malignancy, or acute pelvic infections.

RESULTS

58% of patients suffering from UUI were completely dry, 31% of patients showed significant improvement and 11% did not show any improvement after the treatment. 80% of patients suffering from SUI were completely dry after the therapy, 15% of patients showed significant improvement and 5% did not show any improvement. 69% of patients suffering from MUI were dry, 29% of patients showed significant improvement and 2% of women did not show any improvement (Fig.1, 2).

INTERPRETATION OF RESULTS

FMS treatment showed immediate and effective outcome in properly chosen patients, especially in the frequency of micturition, episodes of incontinence and nocturia. FMS has presented as reliable and repeatable, non-invasive treatment for urinary incontinence in women with favourable initial efficacy and perspective future. Also, frequency and urgency symptoms of patients were decreased with this method.

CONCLUSIONS

The presented patient's improvement and their positive feedback confirm previous literature reports that magnetic stimulation is an effective non-invasive therapy for all types of incontinence. It is, however, necessary to emphasize that the presented results are based on the patient's personal observations revealed in a questionnaire. Since patient satisfaction is an important part of every rehabilitation and medical treatment, the goal is achieved with magnetic stimulation therapy.

With the aid of the electromagnetic chair, patients also learned how to perform pelvic floor muscle exercises themselves. This is going to help them maintain muscle strength after the conclusion of the therapy. The 8-week therapy block offers a good basis for the long-term pelvic floor muscles ability for urine flow control. However, the muscles need to stay active in order to maintain their strength and function (Doğanay et al., 2010). This is achieved by performing regular Kegel exercises correctly by the patients themselves.

One of the limitations of the present study is the lack of a control group. It is difficult to design an effective placebo treatment because the patients are aware of the strong contractions of the pelvic floor muscles during the treatment.

Further studies are required to determine other diagnostic parameters and the need to include a control group. However, based on the presented results, it can be concluded that magnetic stimulation therapy offers a suitable alternative treatment option for all types of female urinary incontinences.

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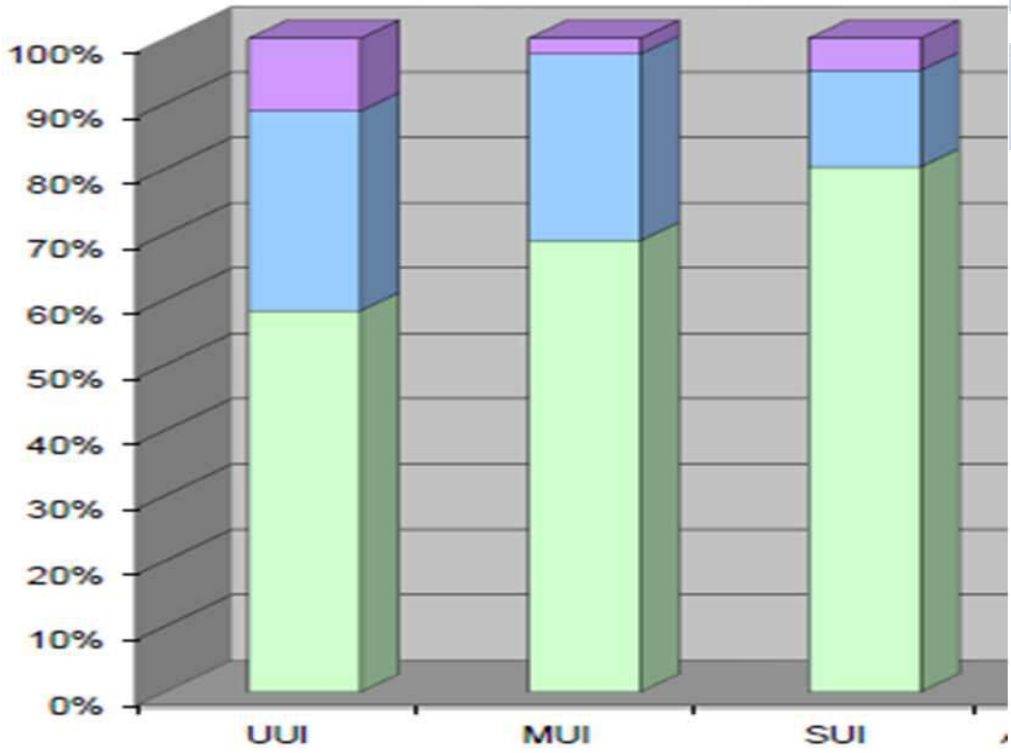
Figure 1.

	UUI		MUI		SUI	
	N	%	N	%	N	%
Completely dry	9	58	11	69	19	80
Significant improvement	4	31	5	29	4	15
No improvement or insignificant improvement	2	11	1	2	2	5
All	15	100	17	100	25	100

Figure 2.



65 - EFFECTIVENESS OF DYNAMIC QUADRIPOLAR RADIO FREQUENCY IN THE TREATMENT OF VULVO-VAGINAL ATROPHY OF MENOPAUSE AND URINARY SINDROME.

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INTRODUCTION AND AIM OF THE STUDY

Genito-urinary syndrome of menopause (GSM) encompasses genital, sexual and urinary symptoms associated with age and hormonal deficiency. Innovative energy-based technologies are currently available and may effectively treat vulvo-vaginal atrophy (VVA). The aim of the study is to investigate the effect of a new dynamic quadripolar radiofrequency (DQRF) device on vulvovaginal health in postmenopausal women (PMW) with and without stress urinary incontinence (SUI).

MATERIALS AND METHODS

Four 20 min sessions over 2 months with the non-surgical thermal treatment EVA (Novavision Group, Misinto, Italy) were performed in 36 PMW (age range: 37-70 yers; BMI range: 17-36 kg/m2) with (n°=14) and without (n°=22) a clinical and urodynamic diagnosis of SUI suffering from moderate to severe VV symptoms. We evaluated clinical signs of VVA by the Maturation Index (MI) (cut-off <5% superficial cells) and the Vaginal Health Index (VHI) (cut-off score <15) at session 1, 4. Subjective VVA symptoms were measured by the Vulvovaginal Symptoms Questionnaire (VSQ) and sexual function/distress by the Female Sexual Function Index (FSFI)/Female Sexual Distress Scale-Revised (FSDS-R) at session 1, 2, 4.

RESULTS

Both VHI and MI improved in PMW with and without SUI following DQRF with a significant interaction between group and time (VHI: f=5.9; p<.02 and MI: f=4.2; p<.05). Indeed, women with SUI showed a barely significant tendency to better VHI and MI at baseline. VVA symptoms significantly improved in both groups over time (f=23.6; p<.001), without any difference between women with and without SUI. The same was evident for sexual function (f=8.0; p<.001) and sexual distress (f=8.0; p<.001). DQRF parameters [target range of temperature (T between 40° C to 42° C) and power (P between 12-15%)] proposed by the manufacturer were similar in the two groups, as well as the tolerability to DQRF procedures.

INTERPRETATION OF RESULTS

The application of radiofrquency therapy increases the physical well-being of the patients. The compliance to the treatment was evident; in fact the method was well tolerated by all patients No adverse effects were reported and the application of instrument did not cause any interferences with everyday life . During the therapy and follow-up, the urinary stress incontinence condition improved, and gratification during their sexual acitivity increases. No dyspareunia or sexual discomfort were reported the self-perception of vaginal atrophy, vaginal laxity, and atrophy-related symptoms, such as painful, have a significant improvement.

CONCLUSIONS:

The data support the use of DQRF for the treatment of GSM symptoms in PMW with and without SUI. The application of radiofrequency device results in significant increase in sexual satisfaction and functions, and in the patient's psycho-sexual well-being. In menopause DDRF becames an effective istrument of treating vaginal laxity and restoring pelvic floor quality.

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66 - PELVIC FLOOR MDT

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INTRODUCTION AND AIM OF THE STUDY

In September 2013 National Institute for Health and Care Excellence (NICE) (2016) guideline for Urinary incontinence in women: Urinary incontinence in women: management recommended 'Offer invasive therapy for OAB (Overactive Bladder) and/or SUI (Stress Urinary Incontinence) symptoms only after an MDT review'. At our District General Hospital the pelvic floor team set up a quarterly Multidisciplinary team (MDT) meeting as per the recommendation. This was commenced in January 2014. This presentation is an audit of the recommendations from NICE.

MATERIALS AND METHODS

We reviewed patient information retrospectively using the pelvic floor meeting proformas that were maintained. We assessed

- Attendance at the meeting for a period of two years from Jan 2016- Dec 2017
- Reviewed proformas for a period of 12 months from Jan 2016- Dec 2017
- All Midurethral tapes performed over a period of 12 months from Jan 2016- Dec 2017

RESULTS

There were a total of 8 meetings held during this period. However we have record of only 7 of these meetings. The Pelvic Floor MDT team comprised of

NICE –Pelvic Floor MDT	Our MDT	MDT meetings 2016 (n=3)	MDT meetings 2017 (n=4)
Urogynaecologist	Urogynaecologist	100%	100%
Urologist	Urologist	33%	100%
Specialist nurse	Specialist nurse	66%	100%
Physiotherapist	Physiotherapist	33%	100%
Colorectal surgeon	Colorectal surgeon	33%	50%
Member of the Care of the elderly team and/or occupational therapist	Care Of the Elderly (COTE)	33%	75%

There were a total of 99 cases of Urogynaecology that were discussed during this twelve month period. Patient information of only 89 could be retrieved. In 97.75% cases the proposed procedure was approved. In the case of two patients the decision was changed. It was decided that one of them would need a pelvic floor repair first and the other patient needed to complete physiotherapy prior to surgical intervention. The decision of the MDT was communicated via a letter to one patient, the other was lost to follow up.

There were 73 Midurethral tapes (Trans Obturator tapes-TOT) that were performed in 2016. 72 cases were discussed at MDT. One case was missed. We reviewed these cases further.

INTERPRETATION OF RESULTS

Improvement in Attendance at Pelvic Floor MDT from 2016-2017. Urogynaecologist have 100% attendance over the two year period.

97.75% cases the proposed procedure was approved. Good correlation between initial plan and recommendations by MDT. 2.25% of cases there was change in plan of management

99% Mid urethral Tape Cases were discussed at MDT.

CONCLUSIONS

Pelvic Floor MDT meetings were started the year after NICE recommended it and are running successfully since in our Unit. Only one permanent Consultant Urologist with specialist interest and Consultant Colorectal on team. Consideration should be given to improve robustness of representation from relevant teams. Meetings need to be conducted in a dedicated clinical session as opposed to during SPA(Supporting Professional Activity) time.

Recognised dedicated secretarial support will improve documentation of proformas and entering data on the national database. Better proforma completion by clinician involvement.

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67 - *OUTPATIENT BOTULINUM TOXIN SERVICE FOR OVERACTIVE BLADDER SYNDROME*

Davies Dr Jennifer, Ormesher Hannah, Ibraheim Mofid, Dinardo Lorraine

INTRODUCTION AND AIM OF THE STUDY

Overactive bladder syndrome (OAB) is a very common condition associated with a negative impact on quality of life. Symptoms are of urgency and occasionally urinary frequency, urge incontinence and nocturia. This condition can be managed with lifestyle advice and physiotherapy but often requires further treatment with antimuscarinics or beta 3 adrenoreceptor agonists. In those patients with severe OAB and whose symptoms are refractory to standard management, botulinum toxin (Botox) is being increasingly used and has been demonstrated to be to very effective (1, 2).

This study is a quality improvement project; the aim was to look at the new outpatient Botox service performed under local anaesthetic (LA) at our local district general hospital and to review how satisfied patients were with the service.

MATERIALS AND METHODS

Over an 18 month period, 34 patients underwent trigone-sparing intravesical Botox injections for OAB under LA performed by 2 consultants.

We looked at the symptoms at initial presentation, treatment received prior to Botox and then sent out Information Governance Trust validated patient feedback questionnaires to all 34 patients to assess how they found the service when performed under LA.

RESULTS

The main symptom in the majority of patients (n= 29 (85%)) at initial presentation was of urinary incontinence. 21 (61.7%) patients had undertaken bladder retraining prior to Botox and on average patients had tried 2 medications prior to bladder Botox injections being performed.

Of the 34 questionnaires sent out to patients, 21 were returned. The mean number of total bladder Botox received per patient was 3. Of those patients who had Botox under both general anaesthetic (GA) and LA, 64% of patients preferred it under LA and the following reasons were most commonly stated; not requiring a GA, shorter hospital stay and quicker recovery.

The average pain score was 5.8/10 when performed under LA and 67% of patients stated that they would be happy having the procedure under LA again with 5% being unsure and 28% stating that they would prefer GA due to pain during the procedure.

20% of patients stated that they had urinary difficulties post procedure, with 10% having to intermittently self-catheterise. Urinary tract infections post procedure occurred in 24% of patients.

95% of patients received a telephone clinic follow up and most patients stated that this was very useful.

The overall patient rating for the service was 9.2/10 and 76% of patients stated that the bladder Botox had dramatically improved their symptoms when compared to previous treatments (ICIQ-OAB, PGI-I).

CONCLUSIONS

Trigone-sparing intravesical Botox injections have been shown to be very effective in the treatment of refractory OAB. In our cohort, most patients preferred the procedure when performed under LA rather than under GA due to quicker recovery and shorter hospital stay. The outpatient service for bladder botox is relatively new at our local hospital and this study highlights the promising potential of this service for the future.

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68 - EXAMINING THE RELATIONSHIP BETWEEN THE QUALITY OF LIFE AND MUSCULOSKELETAL PAIN IN PREGRANT WOMEN WITH URINARY INCONTINENCE

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School of Physical Therapy and Rehabilitation, Pamukkale University, Denizli, Turkey (1)

INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) is defined as "any involuntary leakage complaint" by the International Continence Society. There are many women who complain of UI during their pregnancy. In the 2009 report of the International Incontinence Society, the prevelance of UI in pregnancy was defined as %64 to %32. The muscles, which are responsible for spinal stability, work together in a coordinated fashion. Diaphragma, pelvic floor muscles, transversus abdominis, deep lumbar extensor muscles, pelvic floor muscles (PFM) provide spinal stabilization from superior, inferior, anterior and posterior, respectively. Among these muscles, PFM, in addition spinal stability, it also plays an important role in the protection of continence. The aim of our study is that examining the relationship between lumbal, back and hip pain and UI related quality of life in pregnant women with UI.

MATERIALS AND METHODS

The study included 106 pregnant women with UI who were examined between February and March 2018 in the gynecology clinic of a private hospital,18 years old, had no systemic and obstetric problems and pelvic floor surgeon trauma. After demographic and obstetric data were recorded, pain severity was assessed using the Visual Analogue Scale (VAS), UI related quality of life using the Urogenital Distress Inventory (UDI-6) and Incontinence Impact Questionnaire (IIQ-7). Interviews were conducted with face-to-face interviews with each participant.

RESULTS

The average age of participants was 28.68±4.34 years. The mean of the UDI-6 scores of all participants was 4.89±13.97 and the mean of the IIQ-7 score was 24.66±15.71. Participants with pain in lumbal, back or hip region have statistically significant higher UDI-6 score ($p<0.05$) than participants with no pain, while there was no statistically significant difference in the IIQ-7 scores ($p>0.05$). There was a statistically significant positive correlation between IIQ-7 scores of participants and UDI-6 scores and lumbal pain ($r=0.267$; $r=0.210$), back pain ($r=0.251$; $r=0.260$) and hip pain ($r=0.351$; $r=0.250$) correlation was found ($p<0.01$).

Table 1. Correlations between scores of VAS, UDI-6 and IIQ-7

Variables		Lumbal Pain	Back Pain	Hip Pain	UDI-6	IIQ-7
Lumbal Pain	p	1	0.001*	0.001*	0.006*	0.002*
	r		0.434	0.402	0.210	0.267
Back Pain	p		1	0.001*	0.003*	0.005*
	r			0.514	0.260	0.251
Hip Pain	p			1	0.001*	0.007*
	r				0.250	0.351
UDI-6	p				1	0.001*
	r					0.372
IIQ-7	p					1
	r					

*: Spearman Correlation

INTERPRETATION OF RESULTS

As a result of our study, it was observed that in pregrant women with UI, UI related quality of life was lower in ones with lumbal, back and hip pain than those without. This suggests that the deterioration of function of the PFM which is adjacent to the urogenital system and which is an important part of the formation of

incontinence, affects the load distribution throughout the body and is related with the lumbal, back and hip pain. As the UI related quality of life decreases, the severity of lumbal, back, and hip pain increases. We think that UI forces pregnant women to more isolated lifestyle by affecting their participation in social activities negatively, and so reduces muscular strength causing joint aches during pregnancy.

CONCLUSIONS

The results of our study showed that there was a poor correlation between UI related quality of life and the severity of lumbal, back, and hip pain in pregnant women with UI. There are studies showing that the response of the trunk stabilization muscles, including PFM, is delayed in women with incontinence. So, delayed PFM activity can be responsible both UI and anormal load distribution, which can cause pain in lumbal, back and hip regions. The literature review showed that, like our study, UI have an adverse effect on work routines and free time activities of pregrant women. This can be helped by increasing the level of awareness of women and by introducing conservative treatment methods to them.

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69 - TRANSPLANTATION OF MESENCHYMAL STEM CELLS INDUCE VASCULAR-LIKE STRUCTURE FORMATION IN A RAT MODEL OF VAGINAL INJURY

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INTRODUCTION AND AIM OF THE STUDY Traditional surgical repair of pelvic floor disorders provides suboptimal anatomical outcome, with high failure rates. This may be due to inadequate healing of the vaginal connective tissue, resulting in a weak scar tissue that is insufficient for long-lasting pelvic support. Stem cell transplantation may be used as a biological therapeutic approach supplementing the surgical treatment. Mesenchymal stem cells (MSCs) have been reported to possess a potential therapeutic effect in various human pathological conditions. The beneficial effect of MSCs on wound healing is mostly attributed to a trophic effect, by the secretion of growth factors, promoting angiogenesis. Whether MSCs can contribute to the formation of new blood vessels by direct differentiation is still controversial. In this study we aimed to examine the engraftment, survival and differentiation of transplanted MSCs in a vaginal injury rat model.

MATERIALS AND METHODS MSCs were isolated from the bone marrow of Sprague Dawley (SD) female rats. Cells were charecterized as MSCs by FACS analysis and by their multi lineage differentiation. Cells were labeled with either PKH-26 or GFP and transplanted systemically or locally to female SD rats, followed by a standardized vaginal incision. At different time points following transplantation, rats were sacrificed with an overdose of CO2. The vagina was dissected and fixed with 4% PFA and 6µm cuts were prepared for histological examination.

RESULTS MSCs expressed CD90 and CD29, did not express CD45, CD34, CD11b and CD31 and could differentiate into osteogenic, chondrogenic and adipogenic lineages**.** Engraftment after local transplantation was less efficient at all-time points compared to systemic administration. In the systemically transplanted animal group, MSCs migrated to the injury site and were present in the healed vagina for at least 30 days. Both systemic and local MSCs transplantation promoted host angiogenesis. In addition to the effect on angiogenesis, in the systemically transplanted group, MSCs created new functional vascular-like structures by direct differentiation into endothelium.

INTERPRETATION OF RESULTS Aging is one of the main contributing factors for PFD. Many of the patients suffering from PFD are middle aged or elderly. Aging has a detrimental effect on wound healing processes, partly due to reduced vascularity. We hypothesize that the positive effect of MSCs transplantation on the injured vaginal microenvironment may have a beneficial effect on wound healing processes in the elderly population. The applicability of these findings to clinical reality is yet to be determined.

CONCLUSIONS In this study, we have shown that systemic transplantation of bone-marrow derived MSCs after vaginal incision was associated with homing of the transplanted cells to the injury site and their survival for at least 30 days. MSCs transplantation induced the formation of new blood vessels by angiogenesis. In addition, the transplanted cells differentiated *in vivo* into endothelial cells, forming functional blood vessels. These findings pave the way to further studies of the potential role of MSCs in improving surgical outcome in women with pelvic floor disorders.

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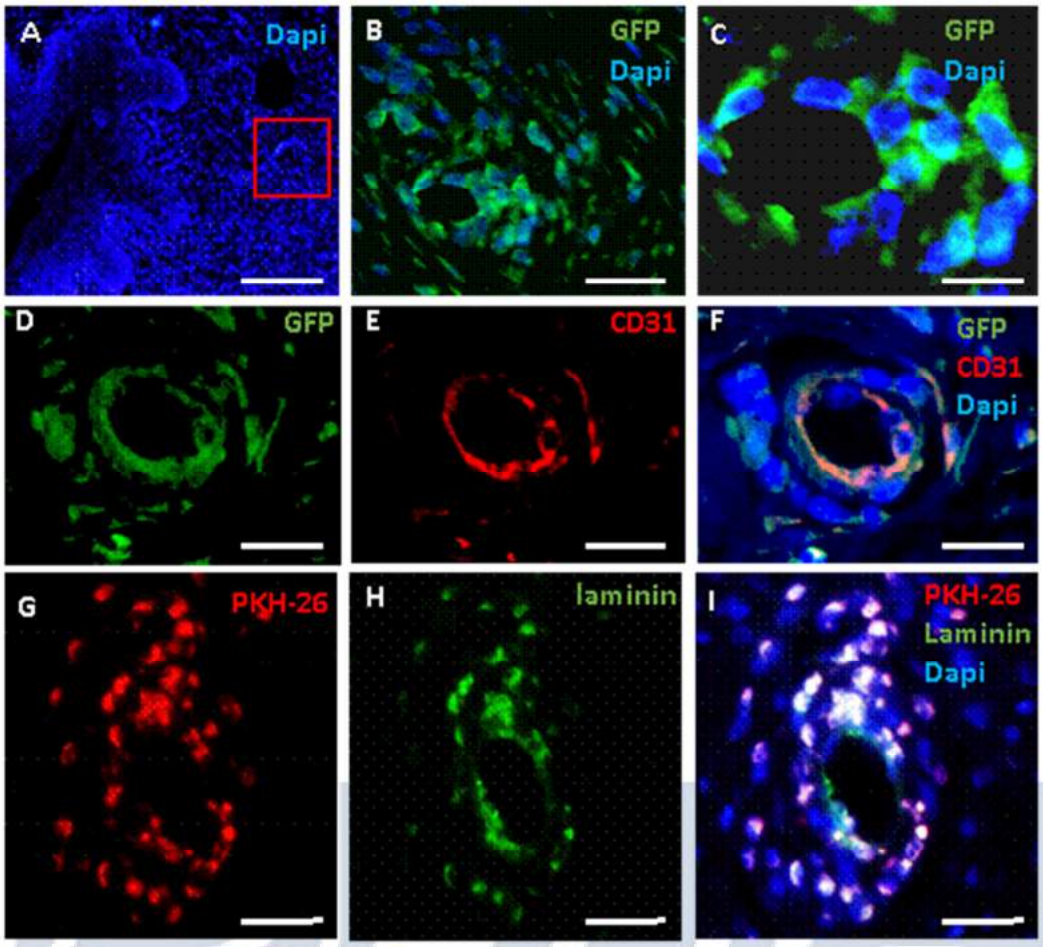
Figure1: Systemically transplanted MSCs differentiate into endothelial cells 7 days after transplantation

(A) At seven days post injury, the epithelium almost returns to its normal appearance. Just adjacent to the incision site (red square in A), GFP transplanted cells are organized in capillary-like structures (B). (C) A higher magnification of B showing the organization of GFP transplanted cells. Sections were stained with GFP (D) and the endothelial marker CD31 (E) to characterize the structures as blood vessels. (F) Co-localization of CD31 and GFP. PKH-26 transplanted cells (G), are expressing laminin (H) and the co-localization of PKH-26, laminin and dapi is shown in (I).


A
Dapi
B
GFP
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C
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D
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E
CD31
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PKH-26
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laminin
I
PKH-26
Laminin
Dapi

70 - WHY DO THE MID-URETHRAL SLINGS FAILURE? THE ROLE OF THE TRANSPERINEAL ULTRASOUND IN WOMEN WITH PERSISTENT OR RECURRENT STRESS URINARY INCONTINENCE AFTER MID-URETHRAL SLING SURGERY.

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INTRODUCTION AND AIM OF THE STUDY

It is estimated that mid-urethral slings (MUS) used to correct stress urinary incontinence (SUI) fails in 5% of the cases, in which SUI persists (SUIp) or recurs (SUIr) after surgery. Pelvic floor ultrasound is able to visualize the sling and defines its position, tension and functionality, being useful to deal with patients with slings failures.

The main objective to the present study was to analyze the ultrasound parameters of the MUS among women with a history of MUS for SUI, comparing patients with SUIp/r after the procedure with asymptomatic patients after MUS.

MATERIALS AND METHODS

A case-control study was designed, including as cases women who had been referred for symptoms of SUIp/r after MUS to a urogynecology unit of a tertiary hospital (from 2012 to 2017). SUIp was considered when symptoms persisted just after surgery or reappeared during the first month; and SUIr when SUI symptoms reappeared >1 month after the procedure. As the control group, consecutive women with a history of MUS surgery were selected, with total cure of SUI and without associated MUS complications (voiding dysfunction, erosion, pain or *de novo* urge incontinence).

A two-dimensional transperineal ultrasound (TPUS) with a convex probe (type 8802, Ultraview 800, BK Medical) was perform to all women, assessing the following sonographic parameters: position of the sling at rest, shape of the sling at rest and during Valsalva manoeuvre, distance from the sling to the longitudinal smooth muscle complex (LSMC), symmetry in the axial plane, and dynamic urethral movement. The MUS was considered correctly placed by ultrasound when it was placed in the middle/middle-distal third of the urethra, symmetric, with a flat shape at rest and c-shaped in Valsalva, with a 2-5 mm of distance from the sling to the LSMC, and urethral *kinking* in Valsalva (Figure 1). Women with surgery by adjustable sling type Remeex © were excluded.

RESULTS

Demographic, clinical and sonographic outcomes of 270 women with a history of MUS were analysed: 118 with symptoms of SUI (100 of SUIr and 18 of SUIp) and 152 without symptoms of SUI. The mean age was 63.9 ± 11.4 years, parity 2.1 ± 1.1 vaginal births, the body mass index 28.2 ± 5.2 Kg/m^2, and the interval of time from surgery-ultrasound 1200 ± 1633 days. 96/270 (36%) received concomitant POP surgery. 73% were transobturator tapes (TOT), 18.3% retropubic (TVT) and 0.5% minislings. No statistically significant differences were found comparing cases and controls considering these variables.

Fifty-four percent of women with SUIp/r showed sonographic parameters of “incorrect” placement of the sling during Valsalva: a lack of contact between the sling and the mid-urethra, and 44% of cases with a discordant movement (*slipping* towards the bladder neck). Both discordant movements make the MUS remain flat during Valsalva manoeuvre. The sonographic parameters of the women with SUIp/r and asymptomatic patients are detailed in Table 1.

INTERPRETATION OF RESULTS

Among women with a failure of MUS surgery (symptoms of SUIp/r), a 2D-TPUS suggests a discordant movement in more than a half of patients: *slipping* of the sling to the bladder neck, or a lack of contact between the sling and the urethra. These data reinforce the importance of evaluating urethral mobility before MUS surgery, especially in patients with risk of fixed or hypomobile urethra. When the 2D-TPUS suggests a correct sling placement in patients with SUIp/r, the tape might not be enough to correct completely the SUI.

CONCLUSIONS

More than half of the women who report SUIp/r after MUS surgery show sonographic parameters which can explain the cause of failure, such as the lack of contact between the sling and a fixed or hypomobile urethra, or discordant movement (*slipping).* 2D-TPUS may be useful in patients with SUIp/r symptoms after MUS surgery, to take personalized therapeutic decisions.

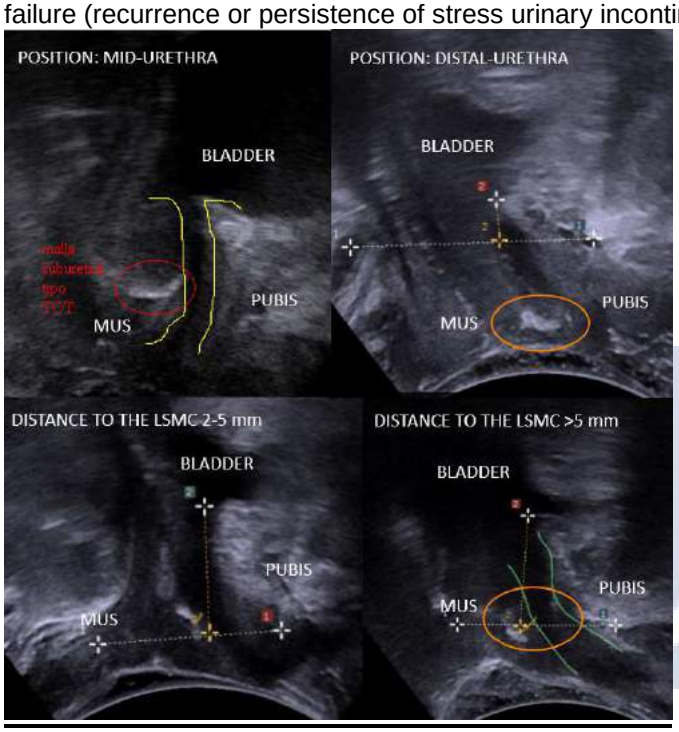
Table 1. Sonographic parameters of the women with previous mid-urethral sling (MUS) surgery, comparing those with persistence or recurrence of stress urinary incontinence (SUIp/r) with asymptomatic patients.

	SUI persistance	**SUI recurrence**	**No SUI**	p
“Incorrect” placement of the sling	10/16 (62%)	51/97 (53%)	39/151 (26%)	<0.001

Distance to LSMC*>5 mm	3/16 (19%)	24/88 (27%)	31/143 (22%)	NS
Flat shape during Valsalva	7/18 (39%)	29/92 (32%)	19/149 (13%)	<0.001
Distal position	1/18 (6%)	22/97 (23%)	18/150 (12%)	0.02
No urethral *kinking* during Valsalva	10/18 (56%)	33/94 (35%)	20/148 (14%)	<0.001
Slipping to the bladder neck	8/18 (44%)	26/94 (28%)	17/148(11%)	0.001
No contact between tape and urethra	2/18 (11%)	7/94 (7%)	3/148 (2%)	0.001

** longitudinal smooth muscle complex*

Figure 1: Position and distance to a mid-urethral sling (MUS) to the longitudinal smooth muscle complex (LSMC). Distal position of the MUS and >5 mm of distance to the LSMC are associated with MUS surgery failure (recurrence or persistence of stress urinary incontinence.



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71 - LAPAROSCOPIC SACROCOLPOPEXY IN THE ELDERLY FOR POST-HYSTERECTOMY VAGINAL VAULT PROLAPSE: IS IT JUSTIFIED?

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Geoffroy St Hilaire, Geoffroy St Hilaire, Paris, France (1)

INTRODUCTION AND AIM OF THE STUDY

Laparoscopic sacrocolpopexy (LSC) is a surgical approach for post-hysterectomy vaginal vault prolapse.
Our objective was to evaluate the influence of age on outcomes for the population of women referred with symptomatic post-hysterectomy vaginal vault prolapse at least 1 cm above the hymeneal remnants.

MATERIALS AND METHODS

A prospective case control study was performed for patients undergoing LSC in our institution from June 2009 to June 2018. Pre- and post-operative data referring to international pelvic organ prolapse quantitation classification (POP-Q), score symptoms and score of quality of life (French equivalent of the Pelvic Floor Distress Inventory (PFDI) and Pelvic Floor Impact Questionnaire (PFIQ)) were compared. The same LSC surgical technique was performed in both groups of patients; two large pore size (≥1mm) low weight (19 g/m^2) monofilament polypropylene mesh (Restaurelle ® Coloplat Group,) were used. The patients were contacted and completed questionnaires more than one year after surgery.

RESULTS

A total of 56 patients underwent LSC for apical vaginal prolapse, 36 patients were over (Group 1) and the others were less than (Group 2) 70 years old at the time of surgery (mean ages: 76 ± 4 and 56.5 ± 9 years, respectively). Operative time (92 ± 19 versus 81 ± 10 min; NS) and Intraoperative blood loss (mean difference -113.3mL, 95% CI -163.67- -62.87 mL) were similar in between the groups. With a mean follow-up of 36.7 months (range 12-90), all the patients were accessible for evaluation. Pre-operatively 100% reported bulge, post operatively, 96.4% reported improvement, no difference in anatomical results was demonstrated. The rate of postoperative complications and length of hospital stay were similar between the groups. Score Prolapse symptoms and score of quality of life reported no difference between the groups.

INTERPRETATION OF RESULTS

The older group had similar intra-operative and post-operative results, when compared to the younger group.

CONCLUSIONS

The LSC procedure is safe and efficient to treat post- hysterectomy vaginal vault prolapse in the elderly population.

72 - IS LAPAROSCOPIC SACROCOLPOPEXY SAFE IN ELDERLY PATIENTS?

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INTRODUCTION AND AIM OF THE STUDY

Abdominal sacrocolpopexy (ASC) has better results compared to vaginal surgery in patients with pelvic organ prolapse thus considered the gold standard approach(1). However, the latter is often faster and carries a shorter recovery time, thus preferred for older women. Laparoscopic sacrocolpopexy (LSC) aims to bridge this gap. The aim of this study is to evaluate the safety of LSC in elderly patients.

MATERIALS AND METHODS

We retrospectively evaluated the records of 95 patients who underwent LSC due to symptoms and signs of prolapse. Intraoperative and postoperative complications were classified using Clavien- Dindo surgical complication classification system (2). All patients were stratified into 2 groups - under and over 65 years.

RESULTS

95 patients had undergone LSC and were included in the study. The median age was 57.5 years (28-81) with mean BMI of 26.9kg/m^2 (19-43). 38 reported symptoms of urinary incontinence preoperatively. The mean follow up period was 11.7 months (0.5-100). 64 patients were in the under 65 years group and 31 in the over 65 years group. The complication's type was recorded and classified as described in the methods. In our population grade 1 complications included small erosion, severe pain and constipation, grade 2- UTI, and grade 3 included erosion, recurrence or hernia at trocar site that required re-intervention and bowel, rectal, bladder, or ureter injury. No grade 4 or grade 5 complications were documented.

.

Age (n)	NC* n (%)	Grade I n (%)	Grade II n (%)	Grade III n (%)	P- value
<65 (64)	47 (73)	7 (11)	0 (0)	10 (16)	>0.05
≥65 (31)	18 (58)	4 (13)	1 (3)	8 (26)	

* NC= No complications

The overall peri- and postoperative complication rates shown in the table for each group, without statistically significant difference between them (p>0.05, analyzed by t-test).

INTERPRETATION OF RESULTS

Laparoscopic sacrocolpopexy is the gold standard treatment for central compartment defect, however considered a challenge for the elderly population. Our study suggests that this procedure is safe among women above 65 years old, as the complication rate and distribution is similar compared to the group below 65 years of age. This finding was not statistically significant, most probably because of power issue and accounts for one of the study's limitations.

CONCLUSIONS

Laparoscopic sacrocolpopexy is safe and well tolerated in patients over 65 years of age. However, prospective randomized studies are needed to evaluate its superiority to vaginal surgery in elderly patients.

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73 - PELVIC FLOOR MUSCLE ACTIVATION IN URINARY INCONTINENT WOMEN : IMPACT OF A DISTRACTION TASK

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) has a negative effect on the quality of life of many women due to emotional, social and medical problems. Its etiology is complex with growing evidences that urethral sphincter, PFM, peripheral and central nervous system dysfunction all contribute. Reflex contraction of peri-urethral and PFM is a well-known precondition of urinary continence following cough effort. Previous studies[1,2] seems to indicate that the involuntary PFM response is not a result of a simple spinal reflex but a complex neurological process. The purpose of this study was to explore the involvement of cognition in voluntary and involuntary pelvic floor muscle (PFM) contraction in urinary incontinent women.

MATERIALS AND METHODS

The PFM contraction expressed with surface electromyography (EMG) was measured with and without a mental distraction task (DT) called “Paced auditory serial additional test” (PASAT). Forty stress or mixed incontinent women have to perform voluntary contractions of external anal sphincter (EAS) and involuntary contractions induced by means of coughing, studied by external intercostal muscle (EIC) EMG activity.

RESULTS

DT altered the PFM preactivation when coughing: the latency between the external intercostal (EIC) muscle EMG activity and EAS EMG activity (called RT3) were respectively -54.94 ms (IQR -87.12;3.12) without the PASAT versus -3.99 ms (IQR: -47.92;18.69) with DT (p=0.02, Wilcoxon’s test). Concerning voluntary contraction, women activated their PFM sooner without DT versus with DT.

INTERPRETATION OF RESULTS

This study suggested a role of cognition in urinary pathophysiology. We should design rehabilitation programs such as dual task rehabilitation in order to improve the timing of preactivation in urinary incontinent women.

CONCLUSIONS

The PASAT altered voluntary and reflex contractions of the PFM in urinary incontinent women.

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74 - ITALIAN ELECTRONIC PERSONAL ASSESSMENT QUESTIONNAIRE (I.EPAQ): PSYCHOMETRIC VALIDATION OF THE VAGINAL SECTION

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INTRODUCTION AND AIM OF THE STUDY

Patient Reported Outcome (PRO) questionnaire are increasingly considered the keystone in Pelvic Floor Disorders assessment[1]. An innovative English language multidisciplinary electronic Personal Assessment Questionnaire (ePAQ®) has been psychometrically validated in 2006[2]. A certified Italian version of ePAQ® (I.ePAQ®) has been made available by the Italian Society of Urodynamics. The aim of our study was to assess the psychometric properties of the Vaginal dimension of the I.ePAQ®.

MATERIALS AND METHODS

Patients complaining of vaginal Prolapse at our Unit were included. After consent they filled-in the I.ePAQ® via a dedicated touch-screen display (T0). The patients also completed an acceptability questionnaire to rate I.ePAQ for positive and negative features and some concurrent questionnaires: UDI (Urogenital Distress Inventory) and PGI-I. To test *reliability* the Cronbach's Alpha coefficient for the domains obtained from all the ePAQ questionnaires was analyzed. The acceptability questionnaire (QQ10) is adopted for *validity*. Finally to assess *responsiveness* the questionnaire was administered again after surgical treatment (T1) and results were analyzed with the Cohen's Effect-Size, the Standardized Response Mean and the Wilcoxon's test ($p<0.05$ for significance).

RESULTS

88 women (mean age 67 yrs; mean BMI 26; 82% in menopause) were included and filled in 116 I.ePAQ questionnaires. Results for *reliability* are shown in table 1 and the Spearman's correlation is reported in table 2 while *Face Validity* in table 3. Tests on *responsiveness*, are reported in table 4 and 5.

INTERPRETATION OF RESULTS

Testing the Reliability is evident that the electronic questionnaire has a good internal consistency even if one of the domain (pain and sensation) shows a lower result comparing with others. While judging the questionnaire more than 80% of patients express a positive view and more than 75% disagree with negative features, with the major concern as to the questionnaire being too long. The questionnaire is also *responsive* to changes: answers in every domain (except for capacity) are significantly different between T0 and T1 (tab 4) and this is further confirmed by Cohen's Effect-Size, the Standardized Response Mean and the Responsiveness Statistic, all above the 30%. The capacity, however, is a parameter also analyzed with other clinical tests which, on the other hand, fail to provide the other assessments obtainable from ePAQ.

CONCLUSIONS

The vaginal section of the Italian version of ePAQ® meets the psychometric properties of *validity, reliability* and *responsiveness*. The questionnaire is now ready for clinical application in Italian language patients helping the assessment of prolapse disorder.

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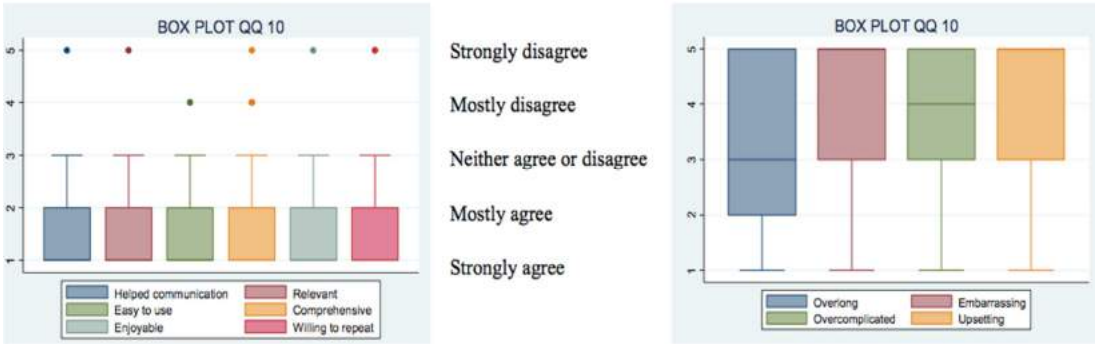
TAB 1.: Test-retest *reliability* assessment in 116 questionnaires

ePAQ Domains	Cronbach's Alpha
Pain and Sensation	0.5601
Capacity	0.7974
Prolapse	0.8522
Quality of Life	0.8161

TAB 2.: *Spearman Correlation between domain scores of ePAQ vaginal dimension and domain scores of UDI*

	Pain	Capavity	prolapse	QoL	is	sui	os
Pain	1.0000						
Capacity	0.3722	1.0000					
Prolapse	0.3707	0.0188	1.0000				
QoL	0.4397	0.1210	**0.5704**	1.0000			
is	0.1663	-0.0984	0.2239	0.4322	1.0000		
sui	0.0939	-0.0090	0.0961	0.3597	0.5511	1.0000	
os	0.3157	0.0309	**0.5980**	**0.5981**	0.3485	0.2964	1.0000

TAB3.: ***ePAQ Acceptance Questionnaire (QQ10) Positive Questions (left) and "Negative" Questions (right)***



TAB4.: ***Responsiveness*** **via Wilcoxon test in 28 women after treatment**

Domain	**T0** Mean ± SD; Median (interval)	**T1** Mean ± SD; Median (interval)	**Wilcoxon signed rank test** ***p- value*** *for rank comparison*
Pain and sensation	**28.0** ± 19,3 25,0 (0 – 83.3)	**8.3** ±11.8 0 (0 – 41.7)	*0.0001*
Capacity	**4.4** ± 10,6 0 (0 – 44.4)	**6.6** ± 19.8 0 (0-100)	*0.9070*
Prolapse	**67.9** ± 21,0 75,0 (8.3 – 100)	**10.5** ± 21.5 0 (0-75)	*0.0001*
Quality of Life	**47.6** ± 31,4 44,4 (0 – 100)	**11.5** ± 22.9 0 (0 – 77.8)	*0.0001*

TAB5.: ***Responsiveness*** **via specific coefficients in 28 women after treatment**

Domain	**Cohen's Effect-Size ES** $ES = \frac{M_{post} - M_{pre}}{SD_{pre}}$	**Standardized Response Mean SRM** $SRM = \frac{M_{post} - M_{pre}}{SD_{prepost}}$
Pain and sensation	-102%	-107%
Capacity	21%	10%
Prolapse	-273%	-249%
Quality of Life	-115%	-128%

75 - ARE WOMEN WITH CERVICAL INCOMPETENCE AT A HIGHER RISK OF DEVELOPING LUTS OR POP?

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INTRODUCTION AND AIM OF THE STUDY

Risk factors for pelvic organ prolapse (POP) and lower urinary tract symptoms (LUTs) in women include pregnancy and delivery, parity, obesity, smoking, pulmonary disease, constipation, occupational activities, menopause, race, and genetic predisposition. Risk factors for cervical incompetence include cervical surgery, congenital uterine anomalies, and genetic predisposition. Connective tissue disorders as abnormal synthesis and metabolism of collagen and extracellular matrix in the cervix and pelvic supporting ligaments are common risk factors in both entities.
The objective of this study was to compare long term urinary and prolapse related symptoms in patients that had cervical incompetence with those that did not.

MATERIALS AND METHODS

In a retrospective analysis, all cases of cervical incompetence between 2006 and 2009 in one tertiary medical center were compared to the control group. Study group comprised 49 women who had cervical incompetence. Control group comprised 68 consecutive women matched by age, parity, and delivery date that did not had cervical incompetence. Minimal follow up period was seven years. Symptoms of urinary (UDI-6) and POP related complaints (POPDI-6) were evaluated based on the pelvic floor distress inventory-short form (PFDI-20) questionnaire.

RESULTS

Women with cervical incompetence were older, had higher rate of previous second trimester abortions, higher cesarean section rate and delivered earlier (Table 1). Assessment of patient's symptoms, in a follow-up of seven to twelve years, using the POPDI-6 was significantly higher in patients who had cervical incompetence, compared to controls (15.2 ± 23.9 vs 1.1 ± 5.1, respectively, p=0.003). Urinary complains, as reflected by UDI-6, were also more common in women who the cervical incompetence (19.7 ±18.8 vs 3.4 ± 6.0, p<0.001) (Table 2). After adjustment for maternal age at delivery, gestational age, vaginal delivery and birth weight, patients in the study group were significantly increase both POPDI-6 (p=0.02) and UDI-6 scores (p<0.001).

INTERPRETATION OF RESULTS

Women with previous cervical incompetence experienced higher rate of POP and urinary symptoms as compared to women that had no cervical insufficiency.

CONCLUSIONS

History of cervical insufficiency is a risk factor of developing pelvic organ prolapse and urinary stress incontinence.

76 - OUTCOMES AND COMPLICATION RATE IN A TERTIARY REFERRAL HOSPITAL WITH HIGH EXPERTISE IN TRANSVAGINAL MESH POP REPAIR

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INTRODUCTION AND AIM OF THE STUDY

Pelvic Organ Prolapse (POP) treatment often includes surgery and its frequency is gradually increasing. The lifetime risk of POP experiencing-related surgery ranges from 6.3 to 19%.
Back in the 2000s, surgical mesh for transvaginal POP repair has been widely used but later decreased due to various FDA warnings for high complication rates. Because of this, the role of meshes still remains controversial but complications seem to be lower for patients treated by very high volume centres and experienced surgeons.
Aim of our study is to evaluate intraoperative and perioperative outcomes after vaginal mesh POP repair in a high-volume center with high surgical experience.

MATERIALS AND METHODS

Since 2008, data on patients who underwent transvaginal mesh repair for POP in our center were collected. All cases were treated by two expert surgeons. POP was defined according to the Half Way System (HWS) and divides in anterior, medium and posterior compartment prolapse. POP repair was defined as a 0-1°HWS for treated compartment. Perioperative complications were classified according to the Clavien-Dindo classification. Prolapse, De novo stress urinary incontinence (SUI) mixed (MUI) or urge (UUI) and mesh erosion were evaluated as post-operative complications. Reintervention rate was recorded. Follow up was performed at month 1, 3, 6, 12 and then yearly. Minimum follow up was 12 months.

RESULTS

We enrolled 168 patients. Median follow up was 62 months (IQR 38-96) and 34 patients (20,2%) were lost at follow up. Preoperative patients' characteristics are reported in Table 1. Patients who had previous hysterectomy were 25 (14,9%). Surgery for anterior, medium and posterior compartment was performed in 160 (95,2%), 2 (11,9%) and 6 (3,6%) patients respectively.

INTERPRETATION OF RESULTS

Overall, perioperative complications were 21 (12,5%) and included pain 2 (1,2%), urinary retention 5 (3,0%), hematoma 3 (1,8%), fever 3 (1,8%), dyspareunia 1 (0,6%), urinary infection 2 (1,2%), delayed healing 3 (1,8%) and vaginal synechiae 2 (1,2%). No complications exceeded Clavien-Dindo score 2. POP was successfully repaired in all cases except anterior compartment that had success in 157 cases (98,1%) with a mean 2,7° correction HWS (SD 0.7°) at last follow up. De novo prolapses in untreated compartment were 17 (10,1%) and involved anterior, medium and posterior compartment in 2 (1,2%),7 (4,2%) and 8 (4,8%) cases respectively at month 12. De novo SUI, UUI and MUI were 12 (7,1%), 2 (1,2%) and 4 (2,4%). Mesh erosion occurred in 3 patients (1,8%). Reintervention occurred in 18 cases (10,7%) at month 12 and were 7 POP surgery (5 for de novo POP), 10 SUI surgery and 1 complete mesh removal. Two mesh erosion were successfully treated conservatively. Follow up data are reassumed in Table 1.

CONCLUSIONS

Though the high complications rate described in scientific literature and the consequent FDA warning, in our experience transvaginal POP mesh repair allows to obtain good anatomical and functional results with low rates of intra-, peri- and postoperative complications, maybe due to the center's surgical volume and the surgeons' experiences.

TABLE 1

Transvaginal Mesh Repair for Pelvic Organ Prolapse		Preoperative Characteristics (n=168)	One Year Follow Up Characteristics (n=168)	Last Follow Up Characteristics (n=134)
Age (years), median (IQR)		68 (62-73)	69 (63-73)	73 (67-77)
BMI (Kg/m^2), median (IQR)		24,9 (22,3-28,9)	24,9 (22,4-28,9)	25,1 (22,5-29,3)
Anterior Compartment Prolapse (HWS), n (%)	0	0 (0%)	138 (82,1%)	110 (80,6%)
	1	6 (3,6%)	25 (14,9%)	21 (15,7%)
	2	4 (2,4%)	0 (0%)	0 (0%)

	3	142 (84,5%)	5 (3,7%)	3 (2,2%)
	4	18 (10,7%)	0 (0%)	0 (0%)
Medium Compartment Prolapse (HWS), n (%)	0	44 (26.2%)	135 (80,3%)	115 (85,8%)
	1	43 (25,6%)	21 (12,5%)	17 (12,7%)
	2	33 (19,6%)	6 (3,6%)	2 (1,5%)
	3	45 (26,8%)	7 (4,2%)	1 (0,7%)
	4	5 (3,0%)	0 (0%)	0 (0%)
Posterior Compartment Prolapse (HWS), n (%)	0	99 (58,9%)	79 (47,0%)	68 (50,7%)
	1	29 (17,2%)	56 (33,3%)	43 (32,1%)
	2	9 (5,4%)	25 (14,9%)	21 (15,7%)
	3	28 (16,7%)	8 (4,8%)	2 (1,5%)
	4	3 (1,8%)	0 (0%)	0 (0%)
SUI, n (%)		38 (22,6%)	50 (29,7%)	25 (18,7%)
UUI, n (%)		10 (6,0%)	12 (7,1%)	10 (7,4%)
MUI, n (%)		11 (6,5%)	15 (8,9%)	8 (6,0%)
Bowel, n (%)	Normal	113 (67,3%)	105 (62,5%)	89 (66,5%)
	Constipation	39 (23,2%)	45 (26,8%)	42 (31,3%)
	Diarrhea	16 (9,5%)	18 (10,7%)	3 (2,2%)

77 - INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SELF-MANAGEMENT SYSTEM FOR MONITORING LIFESTYLE MODIFICATIONS: A PILOT STUDY IN WOMEN WITH STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Some risk factors for urinary incontinence (UI) in women can be controlled by non-invasive modifications in lifestyle: weight loss; dietary changes; fluid intake (reduction in caffeinated, carbonated and alcoholic drinks) and avoidance of constipation. This therapy is recommended as a first line treatment for women with urinary incontinence (1). The main objective of this pilot study is to evaluate whether specific lifestyle interventions, such as a behavioural modification therapy for women with mild/moderate stress urinary incontinence (SUI), can be monitored by an Information and Communication Technology (ICT) self-management system.

MATERIALS AND METHODS

Women, between 18 and 75 years old with mild or moderate SUI and with leakage more than once a week according to the ICIQ-UI-SF, were recruited in two European University Hospitals. All patients consented to participate in a pilot study evaluating the feasibility and functionality of an ICT self-management system to remotely support conservative management of SUI at home for a period of three months. The ICT self-management system includes two components associated with education and monitoring lifestyle modification: 1) Smartphone with Application and serious games, designed especially to support conservative treatment for SUI: PFMT and behavioural modification. 2) A web-portal to remotely supervise the behavioural modification, to monitor progress and to enable digital communication between patients and therapists. At the baseline visit, the patient's risk factors for UI were evaluated and, if applicable, therapists assigned lifestyle interventions and instructed patients during the baseline visit according to the advices stated in Fig 1. Information was also available through the web-portal, for patient's consultation if needed. During the period of treatment, patients with one or more lifestyle interventions assigned were monitored and requested to report their progress via the web-portal at 6-8 weeks and at 12 weeks (weight, physical exercises performed, caffeine intake, bladder diary or chronic constipation frequency).

RESULTS

Twenty one women were included, age ranging from 32 to 67 years and a median ICIQ-UI-SF score of 11 (IQR 9-12) at baseline. Therapists detected one or more risk factors for UI in 11 patients (52,4%): obesity in 23,8% (5), physical exercise 9,5% (2), caffeine intake 4,7% (1), fluid intake 19% (4) and chronic constipation 19% (4). There were 6 drop-outs: 3 for technical issues and 3 for personal reasons (non-medical). When we analyzed the data reported by our patients we found: 4 of 11 patients improved in 100% of the lifestyle interventions assigned, 2/11 improved in 50% of lifestyle interventions assigned, 2/11 didn't improve in risk factors after the assigned lifestyle interventions due to low adherence to the advices. In 3/11 dropped-out patients no information was available. Good improvement was achieved with regard to chronic constipation; meanwhile obesity got the worse improvement rate.

INTERPRETATION OF RESULTS

This ICT self-management system provides a method for close monitoring of patients with lifestyle modification therapy. However, the response to the current intervention was limited. To achieve better results, a more intensive supervision of women and regular feedback from the therapist is needed. For example, a weekly reminder via mobile application and/or web-portal about each lifestyle assigned and a monthly question related to each lifestyle to get periodic feedback from patients.

CONCLUSIONS

Specific lifestyle interventions for women with mild/moderate SUI can be monitored by an ICT self-management system. According to the patient's feedback after this pilot study, a more intensive follow-up would be needed to increase the adherence to the treatment with behavioural modification.

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Fig.1 Lifestyle advices.

☑ Obesity and Weight Loss

Obesity is the most clearly established risk factor for UI in women, therefore losing weight will help to the patients who will start PFMT. Diet indication by the doctor will have to be into account some factors such as:

- Balance nutrition and enough calories that help to lose weight.
- Enough nutrients needed.
- Combine the aliments in a proper way.
- Practice regularly sport

☑ Physical Exercise

- It is important to practice daily sports, there is low percentage of women in the middle age with UI who practice daily sports. However, it is also possible that physically active females and elite athletes experience higher levels of SUI than control women.
- On physical activity (work, lifting, running, jumping) remember to activate the support of pelvic floor muscles. Patients with SUI should avoid sports with high abdominals pressure such as classic abdominals, running, jumping, etc. Good Sport activities are for example walking, swimming, yoga, pilates, hiking, etc.

☑ Caffeine Intake

- Reducing the caffeine intake will be beneficial for patients having urgency and frequency episodes of Urinary incontinence.
- To who suffers effort UI will have only improvement in the urgency and frequency episodes of Urinary incontinence.

☑ Fluid intake

- Large amounts of liquid should not be consumed (not >2L every day). Normal diet provides enough quantity of water.
- Would be interesting if the patient can avoid the exceeding amount of alcoholic and soda drinks with sweetener because it is producing bladder irritation.

☑ Chronic constipation

Damage to the pelvic floor musculature can occur as a result of chronic constipation.
Furthermore, it may result in recommendations:

- Adjustment for dietary fibre intake.
- Take advantage of Gastro colic reflex.
- Try to be used to defecate in a certain time of the day.
- Increase intake of foods containing largely insoluble fibre, such as whole grain breads and cereals, nuts, beans, fruits and vegetables with skin and sweet corn.
- Enough intake of liquids.
- Daily exercise.

78 - PREVALENCE OF COITAL INCONTINENCE AMONG WOMEN WITH ADVANCED PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Coital incontinence (CI) is a complaint of involuntary loss of urine during sexual intercourse. It has been found to affect up to 60 % of women with urinary incontinence (1). Is spite of its high prevalence, it is an infrequently discussed and neglected aspect of urinary incontinence. Pelvic organ prolapse (POP) stage three and higher is commonly associated with lower urinary tract symptoms, such as urinary retention, overactive bladder and occult urinary incontinence after reduction of the prolapse. While many studies concerning the prevalence of coital incontinence among women with UI exist, the prevalence in women with pelvic organ prolapse is not known. Our hypothesis was that reduction of prolapse during penetration may cause urine leakage, therefore increased prevalence of coital incontinence in women with pelvic organ prolapse stage 3 and higher could be anticipated. We set out to assess the prevalence of coital incontinence in women with advanced POP attending our urogynecology clinic.

MATERIALS AND METHODS

Women with POP stage III and higher in any compartment scheduled for laparoscopic sacrocolpopexy in the period 2013 – 2017 were enrolled in this prospective study. The stage of the prolapse was determined according to the POP-Q classification, i.e. all women with any compartment descending more than 1 cm below hymen were enrolled. In addition, the POP-Q points from the shortened version (Ba, C, Bp) and total vaginal length were assessed. Other characteristics such as age, BMI, smoking, hysterectomy in history or any episode of stress urinary incontinence and urge urinary incontinence were recorded as well. Subsequently, the women completed the PISQ-IR and PFDI long form questionnaire. A single question concerning the coital incontinence from each questionnaire was analysed; “How often do you leak urine and/or stool with any type of sexual activity?” from PISQ-IR and “Have you ever leaked urine during sex?” from PFDI. Women with and without coital incontinence were compared using Fisher´s Exact Test or a Wilcoxon Two Sample test depending on distribution of normality. P-value under 0.05 was considered statistically significant.

RESULTS

In total, 272 women were enrolled and consented with the study and completed the questionnaires. There were 107 (39.3%) sexually active women in this cohort and 15, i.e. 5.5% of all patients and 14.0% of sexually active patients reported coital incontinence. The sexually active women with coital incontinence were younger and had a higher BMI. No differences in smoking, hysterectomy in history and observed POP-Q parameters were observed (see Table). The prevalence of stress urinary incontinence was significantly higher in women with coital incontinence (60% vs. 22%, p = 0.005). This phenomenon was not observed in the case of urge urinary incontinence (20% vs. 16%, p = 0.7). The prevalence of coital incontinence among women with stress urinary incontinence was 30%.

Table: Influence of patient characteristics on coital incontinence

	CI	*Non-CI*	*p-value*
Age; mean	56.7	51.0	0.0132

BMI; mean	26,8	29.7	0.0087
Smoking; n (%)	19 (20.7)	4 (26.7)	0.7346
Post hysterectomy; n (%)	28 (30.4)	3 (20)	0.5459
Ba; mean	3.2	3.2	0.9388
Bp; mean	1.7	1.3	0.4717
C; mean	0.7	-0.1	0.4288
TVL; mean	6.1	7.8	0.1515

INTERPRETATION OF RESULTS

The prevalence of coital incontinence among sexually active women with POP stage 3 and above scheduled for laparoscopic sacrocolpopexy was 14%. Since the number of women with coital incontinence is relatively low, the interpretation is difficult. However, our data demonstrate, that younger and more obese women with advanced POP are more likely to have coital incontinence. The prevalence does not seem to depend on the presence of uterus or type of prolapse. The increased prevalence of stress urinary incontinence among women with coital incontinence and POP stage three and higher, which was not observed in case of urge urinary incontinence, may suggest that coital incontinence in women with POP may be a marker of occult stress urinary incontinence.

CONCLUSIONS

The prevalence of coital incontinence among sexually active women with POP stage 3 and higher was 14%. Younger obese women with POP stage 3 should be questioned regarding coital incontinence as it has an important impact on the quality of life. Prevalence of stress urinary incontinence was significantly higher in women with coital incontinence. Whether coital incontinence is a predictor of de novo stress urinary incontinence after laparoscopic sacrocolpopexy remains to be determined.

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79 - COLPOCLEISIS FOR GENITAL PROLAPSE: A RETROSPECTIVE CASE SERIES. SECOND COMING OR A FALSE DAWN?

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INTRODUCTION AND AIM OF THE STUDY

Treatments of pelvic organ prolapse in the elderly can be challenging. Increasing age, assocated comorbidities and failing memory result in difficulty to achieve maximum benefit from pelvic physiotherapy, pessary treatmet and traditional prolapse repair. Over the last decade, there has been a renewed interest in obliterative vaginal procedures for treating prolapse in this population.Our aims were to evaluate the safety, report any associated morbidity/ mortality and assess surgical outcomes & patient satisfaction in patients undergoing colpocleisis with a modified LeFort's repair

MATERIALS AND METHODS

This was a retrospective case series of (modified LeFort) colpocleisis performed from November 2014 to August 2017. Data was obtained from the case notes, hospital records, surgical operative summary and clinic letters from post operative follow up. Data recorded included patient demographics, comorbidities, medications and any previous treatment for prolapse. Prolapse was quantified using the Baden Walker classification. Operative characteristics including intraoperative and postoperative surgical complications were recorded. All patients underwent pelvic examination and assessment at follow-up visits. Patients also were asked about urinary and bowel symptoms as well as overall satisfaction.

RESULTS

A total of 16 patients underwent 18 colpocleisis procedures as inpatient admissions. General anaesthetic was used 17 of the 18 (94.44%) cases. The mean age was 79.15 ± 6.67 years (range 67 - 91 yrs). Comorbidities were common, with 14 of the 16 patients (87.5%) having at least one concomitant medical condition. Eight of the 16 women (50%) had undergone a previous operation for pelvic organ prolapse.The uterus was still present in 7 out of the 16 women (43.75%). Mean operating time was 66.2 ± 12.9 min (range 40 - 96 min). No woman required blood transfusion. The women went home after one day in 13 out of 18 cases (72.2%). One lady (5.5%) developed urinary tract infection (UTI). Two women (12.5%) needed re-operation but these were not true recurrences. All women were seen 3 months following operation. None of the women had any descent upto the hymenal ring at follow up. The patients were highly satisfied, with only 1 patient (6.25%) needing further appointments for new onset stress urinary incontinence (SUI).

INTERPRETATION OF RESULTS

After being sidelined for a number of decades, Colpocleisis is now enjoying resurgence again. Our results suggest that colpocleisis is a safe procedure with low morbidity, even in women with significant anaesthetic concerns. It achieves excellent operative success rates. This is in agreement with the recent studies.[1, 2] We acknowledge the short follow up period in our study. The fears of regret and altered body image perception have been unfounded.[3]

CONCLUSIONS

Colpocleisis is an effective and low-risk procedure with high surgical success rates and patient satisfaction. It should be a definite part of the Uro-gynecologist's armamentarium for elderly patient or patients with significant co-morbidities suffering from advanced pelvic organ prolapse.

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80 - FUNCTIONAL, ANATOMICAL AND SUBJECTIVE OUTCOMES AFTER APICAL PROLAPSE REPAIR. AN OBSERVATIONAL STUDY OVER 53 PATIENTS.

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INTRODUCTION AND AIM OF THE STUDY

Vaginal vault prolapse is a complication following hysterectomy with negative impact on women's quality of life due to associated urinary, anorectal and sexual dysfunction. The aim of this study is to evaluate the functional, anatomical and subjective outcomes as well the intraoperative and peri-operative complications of the apical prolapse repair with different methods.

MATERIALS AND METHODS

68 patients who underwent an apical prolapse repair from 2012 and 2017 have been recruited. 53 patients were examined at the follow-up and 15 patients were lost to follow-up. Mean follow-up was 42,7 months. Among the 53 patients, 48 underwent a urogynecologic evaluation and answered to a questionnaire (p-Qol version 4); other 5 patients (4 sacrospinous ligament fixation and 1 colposuspension to the remnants of the Mackenrodt ligament) could not come for the evaluation so that they only answered to our questionnaire during a phone interview.

Patient Global Impression of Improvement (PGI-I) questionnaires were collected.

Anatomical recurrence was defined as descent of any compartment stage II or greater according to the Pelvic Organ Prolapse Quantification system (POP-Q). Functional outcomes focused on urinary, bowel, and sexual dysfunctions.

The primary outcomes were the satisfaction of the patients about the improvement in their quality of life after the surgical repair, evaluated by the analysis of the PGI-I questionnaire, and the percentage of relapse and reoperation.

RESULTS

Among the 53 patients analyzed in this study, 71,6% (n=38) underwent sacrospinous ligament fixation, 9,4% (n=5) underwent high uterosacral ligaments suspension, 9,4% (n=5) underwent ileococcygeus muscle fixation, 7,5% (n=4) underwent laparoscopic sacrocolpopexy and 1,8% (n=1) underwent different techniques (colposuspension to the remnants of the Mackenrodt ligament).

There have been no intraoperative complications and none of the patients has been re-operated.

All the 53 patients answered to the Patient Global Impression of Improvement questionnaire so that we could understand the degree of satisfaction after the surgical repair. 41,5% (n=22) answered to be extremely improved (PGI-I=7), 47,1% (n=25) answered to be much improved (PGI-I=6), 7,5% (n=4) answered to be slightly improved (PGI-I=5) and 3,7% (n=2) answered to be no improved at all (PGI-I=4).

The 2 patients who answered they were not improved at all (PGI-I=4) had a relapse: 1 III degree rectocele (point Bp=+1 according to the POP-Q system), developed within 45 months from the sacrospinous ligament fixation and a III degree rectocele (point Bp=+3) developed within 20 months from the high uterosacral ligaments suspension. These 2 patients didn't wish a reoperation.

There have been the 6,2% (n=3) of anatomical relapses in the anterior compartment (point Ba ≥ 0 according to the POP-Q system): 2 of these relapses developed after a sacrospinous ligament fixation and 1 after a bilateral ileococcygeus muscle fixation. These 3 patients were asymptomatic and didn't wish a reoperation.

There have been the 4% (n=2) of anatomical relapses in the posterior compartment (point Bp ≥ 0 according to the POP-Q system). Among these 2 patients 1 was asymptomatic after a sacrospinous ligament fixation and 1 was slightly symptomatic after a high uterosacral ligaments fixation.

There have been the 2% (n=1) of anatomical apical prolapses (point D=+1). The patient was asymptomatic and didn't wish a reoperation.

INTERPRETATION OF RESULTS

The more often performed surgical procedure was the sacrospinous ligament fixation (71,6%).

The satisfaction rate among the patients after the surgical repair is high: the 96,3% of the patients answered to be improved after the surgical repair (PGI-I ≥5). Only the 3,7% (n=2) of the patients wasn't satisfied after the surgical repair, all of them with an anatomical relapse of the posterior compartment.

There have been the 4% of asymptomatic anatomical relapses in the posterior compartment.

So, we can say that the 8,3% of the patients (n=4) had an anatomical relapse in the posterior compartment alone, half of them after a high utero-sacral ligaments fixation and half of them after a sacrospinous ligament fixation.

There have been the 6,2% of asymptomatic anatomical relapses in the anterior compartment alone, 2 of them after a sacrospinous ligament fixation and 1 of them after a bilateral ileococcygeus muscle fixation.

From this analysis emerges that the 14,7% (n=5) of the patients who underwent a sacrospinous ligament fixation had an anatomical relapse and only the 2,9% (n=1) of the patients had a symptomatic relapse.

The 40% (n=2) of the patients who underwent a high utero-sacral ligament fixation had an anatomical relapse and the 20% (n=2) of the patients had a symptomatic relapse.

The 20% (n=1) of the patients who underwent a ileococcygeus muscle fixation had an asymptomatic anatomical relapse.

The most important result of this analysis is that only the 2% of the patients (n=1) had an anatomical relapse of the apical compartment and this relapse was asymptomatic. It' important to underline the fact that this patient suffers from a II degree obesity (BMI=38 Kg/m2). Moreover, the 75% (n=6) of the patients with an anatomical relapse was overweight (BMI ≥ 25 Kg/m2) and so we can confirm the fact that the weight of the patient is a very important modifiable factor with great impact on the risk of pelvic organ prolapse.

CONCLUSIONS

Surgical procedures for apical prolapse repair can vary according to the surgeon's skills and a multitude of clinical factors. Sacrospinous ligament fixation is confirmed to be a safe and an effective procedure: there have been no intraoperative/post-operative complications, no reoperations and the risk of anatomical symptomatic relapse was low (2,9%). Moreover the satisfaction rate among the patients for this type of surgical repair is high. There are few data available in this study to confirm the efficacy of the other surgical techniques. Anyway, is important to underline the fact that among all the patients who underwent an apical prolapse repair only 1 patient (2%) had an asymptomatic anatomical relapse of the apical compartment, 19 months after a sacrospinous ligament fixation. Moreover, despite the type of surgical technique the satisfaction rate among the patients after the surgical repair is high, with the 96,3% of the patients who answered to be improved.

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81 - VAGINAL APPROACH FOR THE SURGICAL MANAGEMENT OF PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common condition in women affecting quality of life and causing variable morbidity. It is shown that there is 11.1% lifetime risk of undergoing a single operation for pelvic organ prolapse and urinary incontinence, as well as the large proportion of reoperations (1). The goal of surgical management is the restoration of pelvic anatomy and bladder, vaginal and bowel function, resolution of patient symptoms and improvement in quality of life. Following the 2011 FDA safety update, synthetic mesh use in transvaginal POP surgery decreased significantly which led surgeons to seek alternate surgical options for the treatment of POP. Multiple procedures are available using a variety of approaches. We believe that transvaginal approach may be the best among the available options to treat POP. Aim of the present study is to present our experience of transvaginal sacrospinous ligament fixation (SSF) with/without vaginal paravaginal repair in a group of menopausal women affected with pelvic organ prolapse.

MATERIALS AND METHODS

This was an observational, retrospective, cross-sectional study. Menopausal women with pelvic organ prolapse (POP) grade 2 or higher who received surgical treatment were included. Only women who had postoperative follow-up at 6 months were included in the study. Total of 60 women were included. Five of the participants had prior hysterectomy. SSF was performed via anterior approach. Both SSF and paravaginal repair were carried out bilaterally using delayed absorbable sutures. All procedures were performed by the same urogynecology surgeon. Patients were examined preoperatively, 6 weeks postoperatively and 6 months postoperatively. Preoperative work-up consisted of comprehensive obstetric and gynecologic history, urodynamic testing, urinalysis, and pelvic examination with the patient in the dorsal lithotomy position with maximum abdominal strain in order to identify the defect of pelvic support. Patients were also asked to fill out quality of life questionnaires and overactive bladder awareness tool questionnaire at each visit.

RESULTS

The mean age of the 60 women was 66,43 years (range, 51 – 82), the mean parity was 3.19 (range, 1 – 11), and the mean body mass index (BMI) was 27.63. All of the women were postmenopausal. The numbers of participants in each POP-Q stage are shown in table 1. Of five participants with vault prolapse, one had stage 2, three had stage 3 and one had stage 4 prolapse. POP-Q examinations of the participants, excluding stage 4 cases, before surgery and 6 weeks and 6 months after surgery are shown in table 2. Concomitant procedures include vaginal paravaginal repair (n=53), vaginal hysterectomy (n=45), anterior colporrhaphy (n=38), posterior colporrhaphy (n=22), TOT (n=7) and minisling (n=1). Some of the patients experienced incontinence after the surgery however mean overactive bladder awareness tool score before and 6 months after surgery were 15,71 and 8,54 respectively. Two of the main complications include blood transfusion (n=8) and urinary retention longer than 4 days (n=5).

Table 1 : Preoperative Prolapse Stage

Preoperative Stage	No. Patients
Stage 0 – Stage 1	0
Stage 2	8
Stage 3	29
Stage 4	23
Total	60

Table 2 : POP-Q Measurements

	Preoperative (except stage 4 cases, n=37)	6 weeks postoperative	6 months postoperative
Ba	+1,40	-1,55	-1,52
C	-1,05	-5,64	-5,59
D	-3,71	-2,30	-2,20
Bp	-0,75	-1,72	-1,64
TVL	6,05	7,1	7,05

INTERPRETATION OF RESULTS

We consider the results in our series effective as none of the patients had protrusion of the vaginal wall greater than that in stage II during follow-up. Two notable complications included blood loss requiring blood transfusion and urinary retention. Both of these have been reported before (2) similar to our results. However, haemorrhage in our series were slightly higher as we had patients who needed blood transfusions and the number of patients requiring prolonged catheterization was smaller in our series. The explanations for postoperative urinary retention include neuropathy secondary to vaginal dissection, bladder atony, and anxiety (2). Time of recurrence was also reported to be shorter with vaginal route (11.2 -+ 11.5 months) compared to abdominal route (3). None of the patients in our study group required reoperation for POP however we need longer follow-up to be able to evaluate this criterion.

CONCLUSIONS

Surgical management of POP via transvaginal route using SSF either with or without paravaginal repair seems to provide good surgical outcomes in short term without significant complications. Long term follow-up of patients will provide further information about the outcomes of this approach.

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82 - COMPARE THE RESULT OF PELVIC FLOOR PROLAPSE REPAIR IN VAGINAL SURGERY (ANTERIOR COLPORRHAPHY WITH MESH AND SACROSPINOUS LIGAMENT SUSPENSION) AND ABDOMINAL APPROACH (SACROCOLPOPEXY OR HYSTEROPEXY)

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organs prolapse may negatively affect pelvic floor function, resulting in micturition symptoms, defecation symptoms and sexual dysfunction. If the anatomical abnormalities and impaired pelvic floor function of patients with uterine prolapse are severe enough, surgical correction is indicated. Several surgical procedures have been described to effectively correct pelvic floor prolapse.based on traditional technices, A gynaecologist will often either choose to perform a vaginal hysterectomy, if necessary combined with anterior and/or posterior colporraphy or to perform a sacro-colpopexy with preservation of the uterus. Retrospective studies have shown different complication and failure rates of both techniques. We set out to compare functional and anatomical effects of abdominal surgery (sacrocolpopexy or hysteropexy) and vaginal approuch (anterior colporrhaphy with mesh and sacrospinous ligament suspention) for pelvic floor prolapse correction.

MATERIALS AND METHODS

In this cross-sectional study 100 patients were included in two groups based on inclusion criteria. Group A (n=50) were underwent anterior colporrhaphy with mesh and Sacrospinous ligament suspension as vaginal surgery and group B (n=50) underwent Hysterectomy and Sacrocolpopexy or Hysteropexy as abdominal approach. The study protocol was approved by the institutional ethical committee of university of medical science. A standardised urogynaecologic interview and a classification of the genital prolapse according to the recommendations of the ICS was performed in all patients before surgery and at six months and one year after surgery. A *P* value of <0.05 was considered to be statistically significant.

RESULTS

No relevant differences in patients base-line characteristics were observed between 2 groups. In group B (Hysterectomy and Sacrocolpopexy or Hysteropexy), the prevalence of stress incontinence (p=0.001), urgency and urgency incontinence (p=0.001), hesitancy (p=0.021), difficult urination (p=0.031), vaginal pain (p=0.001), infection (p=0.210), hematoma (p=0.340) and erosion (0=0.063) were lesser than group A (anterior colporrhaphy with mesh and Sacrospinous ligament suspension) and there was a significant difference between two groups. also, the prevalence of the novo disparonia (p=0.012), in group A was higher than group B; and there was a significant difference between two groups. At last anatomical improvement was significantly higher in group B rather than group A (p=0.001).

INTERPRETATION OF RESULTS

Our study showed that after 1 year followup, prevalence of vaginal, sexual and urinary complication was significantly lower in abdominal group. It means that if sacrocolpopexy is performed by an experienced surgeon with right technice , correction of anatomy near normal will guaranted near normal function.

CONCLUSIONS

Our results indicate that, in young, healthy and sexually active women complained with genital prolapse, Hysterectomy and sacrocolpopexy or hysteropexy can be recommended as the first surgical selection.

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83 - DOES PDA IMPROVE PATIENT SATISFACTION AND CLARITY REGARDING SUI SURGICAL MANAGEMENT?

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INTRODUCTION AND AIM OF THE STUDY

Currently, there are safety concerns regarding the use of mesh tape, the most commonly performed surgical procedure for the management of stress urinary incontinence (SUI) in women. A recent independent review from Australia suggested that the use of mesh tapes should be the last surgical resort for women (1). Many patients seeking legal compensation following mesh complications claimed they were not offered any surgical alternative. Despite the recommendation from the UK National Institute for Health and Care Excellence (NICE) of equally offering mesh and non-mesh SUI procedures, the number women undergoing the former is significantly more than those undergoing the latter (2). Patient decision aids (PDAs) have been shown to increase patient knowledge, clarity about their own values and accuracy of risk perceptions with regards to various options (3).

The purpose of this study was to evaluate the impact of a purpose-designed procedure-specific face-validated Patient Decision Aid (PDA) on the patterns of service provided to patients considering SUI surgery.

MATERIALS AND METHODS

Over a period of 20-months (Sep 2016 - May 2018), women with urodynamic proven SUI who were considering surgery in both urology and gynaecology departments were asked to read the updated leaflets for four surgical procedures (mesh tape, colposuspension, autologous fascial sling and bulking agent injection) from the two national societies, British Association of Urological Surgeons (BAUS) and British Society of Urogynaecology (BSUG). Prior to consultation with their surgeons, patients were asked to read the PDA, indicate their three most important values using a visual analogue scale (0= no important, 10=most important), indicate the surgical option of their choice and provide their own reason(s) behind such choice. The MultiDisciplinary Team (MDT) then reviewed the clinical condition, previous intervention as well as individual patient values, preferences and choice before a group decision is made. The handwritten free text by patients were categorised into 5 standardised reasoning themes which comprise ‘efficacy’, ‘safety’, ‘invasiveness’, ‘recovery’ and ‘blank/unclear’. Patient demographics were correlated from the national database of the British Society of Urogynaecology (BSUG).

RESULTS

Over the 18-month period prior to the introduction of the PDA, 19 women underwent a colposuspension procedure, 44 underwent a bulking agent procedure and no patient underwent autologous fascial sling procedure. As the hospital followed the Scottish Government suspension of mesh procedures, no patient was offered the mesh tape option.

Following the introduction of the PDA in September 2016, patients were asked to choose one of the four procedures, including the mesh tape option. Thirty (30) women documented their choices and were discussed at the monthly MDT meetings over the 18-month study period. The average age was 50.8 years and the average BMI was 32.3.

One (3%) woman requested mesh tape surgery with a stated reasoning theme of ‘recovery’. Twenty-four (75%) women requested colposuspension with a common reasoning theme of ‘efficacy’. Three (10 %) women chose autologous fascial sling and the stated reasoning theme was ‘efficacy’. Five (15%) women requested bulking agent injection and the stated reasoning theme was ‘least invasive’.

Procedure	Number (%) of requests	Commonest reasoning theme	Number (%) of rejections	Commonest reasoning theme for the rejection
Mesh Tape	1 (3%)	Recovery	24 (80%)	Safety (n=24, mesh complications) Blank (n=5)
Colposuspension	22 (75%)	Efficacy	8 (26.6%)	Safety (n=4, pelvic organ prolapse) Invasiveness (n=2) Efficacy (n=1) Recovery (n=1)
Autologous Fascial Sling	3 (10%)	Efficacy	27 (83.3%)	Safety (n= 13, self-catheterisation) Recovery (n=6) Blank (n=8)
Bulking Agent Injection	5 (15%)	Recovery	25 (83.3%)	Efficacy (n=17) Blank (n=8)

'Cure from SUI' was highlighted as one of the top 3 values by 3/5 (60%) patients who requested bulking agent injection, 14/22 (63.63%) patients who requested colposuspension and 2/3 (66.6%) patients who requested autologous fascial sling.

MDT decision conflicted with that of the patient's in 4 (13.3%) situations. After further consultation and explanation of the MDT views, three patients reevaluated their choices and subsequently agreed with the MDT decision to undergo bulking agent injection instead of colposuspension, colposuspension instead of bulking agent injection, and colposuspension instead of mesh tape procedure. One patient adhered to her decision of autologous fascial sling rather than the bulking agent injection procedure suggested by the MDT, as she did not accept the possibility of requiring further injections.

INTERPRETATION OF RESULTS

Lack of invasiveness was the main patient theme behind requesting the bulking agent option whilst the concern about efficacy was the main reason behind rejection. Conversely, long-term efficacy was the most common reason for requesting the autologous fascial sling procedure, whilst safety concerns (self-catheterisation) was the most common cause for rejection. A perception of high efficacy appeared to be behind the decision to select colposuspension. However, the risk of developing pelvic organ prolapse deterred 4 patients from choosing the procedure.

Concerns regarding safety was the primary reason for women rejecting vaginal mesh to manage their SUI. Nevertheless one patient chose to proceed with the mesh tape option. Using the PDA in our unit was associated with a considerable increase in the number of patients requesting colposuspension as well as a re-introduction of the autologous fascial sling procedure.

CONCLUSIONS

Introducing the PDA in our unit appears to have improved the understanding of patient values and choices by the MDT and to have a substantial impact on the patterns of surgery for stress urinary incontinence. Further validation of the PDA using the decisional conflict scoring is underway to confirm usefulness to patients considering such surgery and whether it correlates with individual patient outcomes.

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84 - ANCHOR-FREE MESH FOR THE TREATMENT OF ADVANCE PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

To evaluate the long-term safety and efficacy of a new transvaginal surgical technique for the treatment of advanced anterior and apical prolapse.

MATERIALS AND METHODS

A prospective, multicentre, international study involving 6 surgeons at 4 centres. The study was approved by all relevant Ministries of Health and local ethical committees. Women with advanced symptomatic pelvic organ prolapse were recruited after detailed informed consent was sighed. The technique involved placement of an open trapezoid-shaped solid flexible frame implant with an ultra-light polypropylene mesh. The device is inserted surgically between the bladder and the vaginal wall. When in place, the frame's lateral arms positioned to follow the anatomy of the pelvic side walls and the distal part positioned behind the pubic bone. No fixation technique is needed. Demographic and pre-operative validated Quality of Life questionnaires (QoL-q) – PFDI20 and PISQ12 – were collected. Intra operative and immediate post-operative data including length of the procedure, estimated blood loss, pain level and complications were documented. Patients were, and still are, followed at 2, 6, 12, 24 and 36 months. Follow up included repeat QoL questioners, POP-Q evaluation and treatment of possible complications.

RESULTS

70 women were recruited. Mean age was 63 (43-79) years-old, average parity was 4.7 (1-16) deliveries. Mean pre-operative POP-Q were: Ba =3.1 (-1 to 6) cm and C=0.4 (-8 to 6) cm. Mean BMI was 27 kg/m^2. 6 (8.6%) patients had previous hysterectomy and 7 (11%) patients had previous prolapse surgery. No intra-operative complications were observed. Surgical time averaged 26 min. and estimated blood loss averaged 155 cc. 2 patients (2.8%) had ambulatory partial frame resection: one case secondary to frame erosion and one case secondary to voiding dysfunction, 8 and 12 months after implantation, respectively. 2 patients (2.8%) underwent TVT-O procedure for De-novo SUI 12 months following the procedure. Median follow-up was 24 (8-45) months. As of June 2018, 19 patients (27%) completed their 36 months follow up, 6 patients (9%) completed 24 months, 40 (57%) patients completed 12 months follow up and 4 (6%) patients completed 6 months follow up. At follow-up, the mean POP-Q were: Ba= -2.9 (-3 to -1) cm and C = -7 (-10 to 1) cm. One patient (1.4%) had a symptomatic recurrence of her apical prolapse (C=0), and two patients (2.8%) had an asymptomatic recurrence of their apical prolapse (Table 1). No cases of mesh erosion or chronic pelvic pain were documented. PFDI scores showed significant improvement of the prolapse, urinary domains and total scores (Table 2). 36 (51%) patients completed the PISQ12 questionnaire. Available data showed improvement in sexual function, although this improvement was not found to be significant. No chronic dyspareunia was documented among all patient.

Table 1: POP-Q measurements at baseline vs. last follow up visit [N=70]

Variable	Baseline N=70	Post-operative at last follow up
Stage 0	0	57 (81.4%)
Stage 1	0	10 (14.3%)
Stage 2	7 (10%)	3 (4.3%)
Stage 3	51 (73%)	0
Stage 4	12 (17%)	3 (4%)
Point Aa	2.0 (-1 to 3) cm	-2.9 (-3 to -1) cm
Point Ba	3.1 (-1 to 6) cm	-2.8 (-3 to -1) cm
Point C	0.4 (-8 to 6) cm	-7 (-10 to 1) cm

Table 2: QoL-q scores at baseline vs. last follow up visit [N=65]

Variable	Baseline N=65	Results at last follow up	Diff.
POPDI-6	51.9	9.1	40.3
CRAD-8	31	11.5	13.1
UDI-6	51.8	13.2	32.6
Total	133.6	24.1	72.7

INTERPRETATION OF RESULTS

The results confirm the long-term safety and efficacy of the new surgical technique when compared to other currently used methods for the treatment of advanced pelvic organ prolapse. The new technique provides 98.5% subjective cure and 97% objective cure. This is the first time a solid frame is used as a vaginal implant which provides safe and effective results. The frame retains the mesh at the desired location and provides a long-term mechanical support. The frame design allows the use of an ultra-light mesh kept under measurable and constant tension and thus preventing mesh erosions and reduction of other intra and post-operative potential complications described with mesh fixation techniques.

CONCLUSIONS

The Anchor-free mesh technique is an effective and safe transvaginal surgical treatment for advanced pelvic organ prolapse.

85 - IMPACT OF MODE OF DELIVERY ON POSTPARTUM SEXUALITY AFTER OBSTETRIC ANAL SPHINCTER INJURIES

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injury (OASIS) is associated with sexual dysfunction and a lower likelihood of sexually activity in the postpartum period. The impact of the mode of delivery is controversial. Therefore, the aim of the present study was to compare self-reported sexual function in women with and without a history of OASIS according to the mode of delivery.

MATERIALS AND METHODS

An observational case-control study was designed and conducted in a tertiary university hospital, from September 2012 to June 2017. Women who had OASIS identified and repaired intrapartum were included as the study group. A cohort of women without a history of a third- or fourth-degree laceration were included as the control group. All participants delivered vaginally, some by SD and others by OVD (including Naegele and Kjelland forceps, Spatules Thierry and vacuum). All women were assessed at a single visit 6 months after delivery.

The main outcome was sexual activity and function, which was evaluated as the percentage of women with coital resumption at 6 months postpartum, sexually active women (SAW), and with the completion of the self-administered validated *Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire-12* (PISQ-12) (0-48, the more the better). Dyspareunia was evaluated analysing question 5 of this questionnaire. All patients also completed *the International Consultation on Incontinence Questionnaire* (ICIQ-IU-SF) (range 0-21) for symptoms of urinary incontinence (UI) and Wexner (range 0-20) for symptoms of anal incontinence (AI). Pelvic floor muscle (PFM) strength was evaluated by digital vaginal palpation and scored according to the Modified Oxford Grading Scale (MOS) (range 0-5). Participants underwent 3D-endoanal ultrasound (EAUS using a 360º mechanical rotational probe (type 2052, Ultraview-800 BK-Medical). The extension of the residual defects was scored according to Starck's classification (0-16).

RESULTS

No statistically significant differences were found between groups considering age, gestational age at delivery, current breastfeeding at 6 months or rate of primiparous. Only 15% of patients had previous vaginal deliveries. Nevertheless, the newborn weight was higher among patients with OASIS (3318±428 vs 3431±4141;p=0.02), and the episiotomy rate lower (131/178 vs 62/140;p=0.04).

More than one third of women had UI symptoms at 6 months postpartum. No differences were found comparing the percentage of women with symptoms of UI with or without OASIS. Neither were statistically significant differences found considering the symptoms of UI when comparing the ICIQ-UI-SF score between women with and without OASIS (2.6±0.3 vs 2.6±0.4), or on analysing the results according to the mode of delivery. Patients with OASIS referred more symptoms of AI (flatus, liquid and solid faeces) and obtained higher Wexner scores than women without OASIS (2.7±3.2 vs 1.1±1.6;p=0.001). A positive correlation was found between Wexner and Starck scores measured by 3D-EAUS (p=0.01), while the MOS correlated inversely with the Wexner score (Rho Spearman -0.156, p=0.014).

Overall, 73%of patients reported coital resumption at 6 months, without statistically significant differences between the OASIS and non-OASIS groups (Table 1). The total PISQ-12 score was similar between groups (Table 2). When analysed according to delivery mode, we observed that after SD, patients without OASIS showed a higher percentage of SAW than those with OASIS (98% vs. 77%; p=0.003), and the PISQ-12 score was also higher (p<0.001). PISQ-12 scores were better in women with SD compared to those with OVD (p<0.001), independently of the history of OASIS (Table 1-2). In addition, women with OVD reported more dyspareunia than women with SD (p=0.01).

The logistic regression model showed that only the maternal age at delivery obtained a statistically significant Odds Ratio in the percentage of SAW, with older women showing the lowest percentage. Multiple regression analysis showed that current breastfeeding at 6 months (standardised coefficient -0.227, p=0.002), the Wexner score (coef -0.216, p=0.002) and a history of OVD compared to SD (coef -0.142, p=0.049) negatively influenced the PISQ-12 score. In this context, women who breastfed at 6 months showed lower PISQ-12 scores than the rest (p=0.007).

INTERPRETATION OF RESULTS

As expected, women with history of OASIS referred more symptoms of AI the women without OASIS. However, our ICIQ-UI-SF results in these patients postpartum, did not suggest any relationship between OASIS and UI, or according to the mode of delivery. After OVD, patients without OASIS postponed coital intercourses longer than women with OASIS, with worse sexual function scores. Maternal age at delivery, breastfeeding at 6 months, symptoms of AI and a previous OVD were factors that influence the sexual

function. These results at 6 months postpartum suggest the potential benefit of extending postpartum follow-up visits beyond the typical 6-8 weeks to e evaluate the persistence of symptoms of pelvic floor dysfunction.

CONCLUSIONS

After SD, women with OASIS become sexually active later compared to women without OASIS, but with similar results in sexual function measured with a specific sexual questionnaire. Nevertheless, among women with OVD and without OASIS, only 60% are sexually active at 6 months postpartum and obtain worse sexual function scores than women with SD and a history of OASIS. Globally, women with OVD resume coital activity later and have worse sexual function than women with normal deliveries.

Table 1. Percentage of patients with sexual activity (SA) at 6 months postpartum, according to the history of obstetric anal sphincter injuries (OASIS) and sorted by the mode of delivery: spontaneous delivery (SD) and operative vaginal delivery (OVD).

	NO-OASIS	OASIS	total
SD	42/43 (98%)[2,3]	46/60 (77%)[3]	88/103 (85%)[1]
OVD	81/135 (60%)[2,4]	62/80 (78%)[4]	143/215 (67%)[1]
total	123/178 (69%)	108/140 (77%)	231/318 (73%)

[1] SD vs OVD: p=<0.0001; [2]SD vs OVD among patients without OASIS: p=<0.0001; [3]OASIS vs no-OASIS among SD deliveries: p=0.003; [4]OASIS vs no-OASIS among OVD deliveries: p=0.01

Table 2. Results of the *Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire* (PISQ-12) at 6 months postpartum, according to the history of obstetric anal sphincter injuries (OASIS) and sorted by the mode of delivery: spontaneous delivery (SD) and operative vaginal delivery (OVD).

		NO OASIS	OASIS	total
SD		**39.7±5.4[1]**	**34.4±7.4[1]**	**36.9±7.0[2]**
OVD		**31.6±4.4**	**33.8±7.3[3]**	**32.5±5.9[2]**
Total		**32.5±9.1**	**34.1±7.3**	**34.2±6.7**

[1] Among SD, OASIS vs no-OASIS (p<0.001); [2] SD vs OVD (p=<0.001); [3]Among OVD, OASIS vs no-OASIS (p=0.03).

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86 - TRANSVAGINAL ULTRASOUND MEASUREMENT OF BLADDER WALL THICKNESS BEFORE AND AFTER BOTULIN TOXIN INJECTION FOR DETRUSOR OVERACTIVITY

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) is a symptomatic syndrome characterized by the presence of urinary urgency, frequency, and nocturia, with or without urge urinary incontinence. It is frequently associated with Detrusor overactivity (DO), defined by involuntary detrusor contractions at urodynamic evaluation. When pharmacological treatment fails, bladder injection of Botulinum toxin-A (BTA) represents a rewarding treatment option. Bladder wall thickness (BWT) evaluated by transvaginal ultrasound (TV-US) could be reliable as a diagnostic tool in women with DO, although its role on monitoring the pharmacological effect is still on a debate. The aim of this study is to investigate on the role of TV-US evaluating changes in BWT in women with DO, before and after BTA injection, correlating these measurements to urinary symptoms and quality of life (QoL).

MATERIALS AND METHODS

Between September 2016 and April 2018, women referred to our urogynaecological unit for OAB and failure of pharmacological therapy were scheduled for urodynamic examination. Among these, women who had urodynamic diagnosis of DO were selected for BTA intravesical injection and enrolled in this prospective study. We included in our study women with age ≥ 18; OAB with urodynamic evidence of DO; medical failure treatment; all women recruited hadn't history of any pelvic or urological abnormalities and bladder surgery; informed consent was obtained.

At baseline (T0) all of them underwent urogynaecological examination and urodynamic test. Moreover questionnaire on QoL (King's Health Questionnaire) and urinary symptoms severity (urge urinary incontinence, urgency, nocturia, frequency) were also recorded. Each urinary symptom severity was evaluated by a numerical score from 1 (the minor severity) to 4 (the maximum severity). TV-US BWT measurement was performed before BTA injection to all women (T0). Patients were also evaluated after one month (T1) and sixth month (T2) follow-up to assess urinary symptoms and QoL through KHQ, to acquire VD reports and measuring BWT by TV-US. Data was recorded in a designed database and analysed using the Student's t-test for continuous variables. P. value of ≤ 0.05 was considered statistically significant.

RESULTS

Seventy women with OAB were evaluated through urodynamic test in our urogynaecological unit. Among these 42 women were diagnosed with DO. We enrolled in our study twenty women that dropped out from pharmacological therapy and were scheduled for BTA injection.

Mean age was 55.9; mean BMI 24.8; mean parity 2. Five (25%) women were in post-menopausal status. Five women (25%) were affected by multiple sclerosis, one (5%) woman had post-voiding residual and one (5%) had abnormal voiding flow at urodynamics. Urinary symptoms severity was reported in **Figure 1** at T0, T1 and T2. Women reported improvement comparing T0 and T1 and T0 and T2, whereas improvement was not statistically significant comparing T1 and T2. TV-US showed that BWT decreased both between T0 and T1 (P=0.02) and T0 and T2 (P=0.01). No statistical difference was found between T1 and T2 (P=0.7) **(Figure 2)**. Results from KHQ are reported in **Figure 3**. The total score showed a statistically significant improvement in QoL between T0-T1 (P=0,0013) and T0-T2 (P=0,0004). Considering each item, the figure show a better quality of life at T1 and T2 versus T0, but statistically significant improvement was found only for incontinence impact, role limitation and emotions.

INTERPRETATION OF RESULTS

Our results suggest that BTA injection improved urinary symptoms and QoL at first follow up and this improvement was maintained at second follow up. This results correspond to TV-US BWT: it decreased at first follow up; after 6 months the improvement was confirmed versus baseline, but not versus first follow up.

CONCLUSIONS

Ultrasound evaluation of detrusor wall thickness can contribute to monitoring the effect of intravescical botulin injection, reflecting the positive effect of this therapy on urinary symptoms and its evolution during months.

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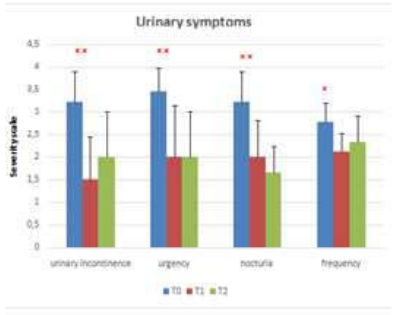
Figure 1. Urinary symptoms



*= P≤0,05 T0-T1
**=P≤0,05 T0-T1, T0-T2

Figure 2. Bladder wall thickness

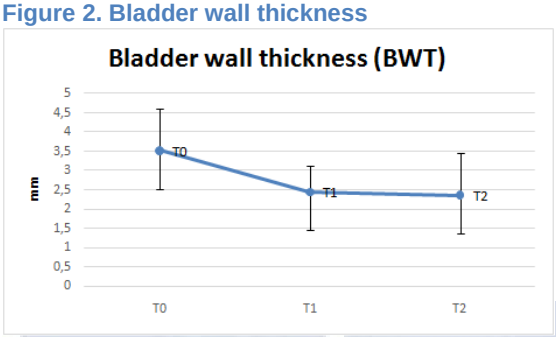
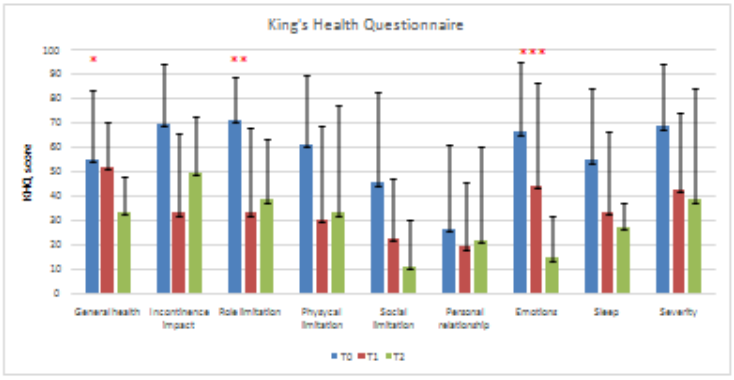


Figure 3. King's Health Questionnaire



*= P≤0,05 T0-T1
**=P≤0,05 T0-T1, T0-T2
***=P≤0,05 T0-T2

87 - EPIDEMIOLOGY OF SURGERY FOR STRESS URINARY INCONTINENCE IN ISRAEL

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) affects women of all ages with a lifetime risk for surgery of 7%. Most of the data on the epidemiology of POP originates from the USA.

Our aim was to describe the incidence, prevalence and distribution of USI surgery across age groups in Israel.

MATERIALS AND METHODS

Women of all ages who underwent primary surgical management of SUI were identified from the database of the ministry of health in Israel, utilizing ICD-9 codes from the discharge diagnosis and procedures. All patients with at least one of the ICD-9 surgical procedure for SUI (59.3X - 59.7X) over the years 2005-2015 (most updated data available) were included. Analysis of primary and reoperation rates was calculated.

RESULTS

A total of 2,396 surgical procedures were performed to treat SUI in Israel in 2015, giving a rate of 0.76 surgical procedures per 1,000 patients. This rate has increased by 61% since 2005 (graph 1). The majority of the procedures were performed among the age group of 65 to 74 years, giving a calculated rate of 2.0 surgical procedures per 1,000 patients (graph 2).

The lifetime risk of undergoing USI surgery in Israel in 2015 was 6.4%. During a follow-up period of 10 years, the rate of repeated surgery for USI among the patients who had undergone the original surgery in 2005 was 6.8%. Most of the reoperations were performed amon younger patients and during early years following the original surgery.

INTERPRETATION OF RESULTS

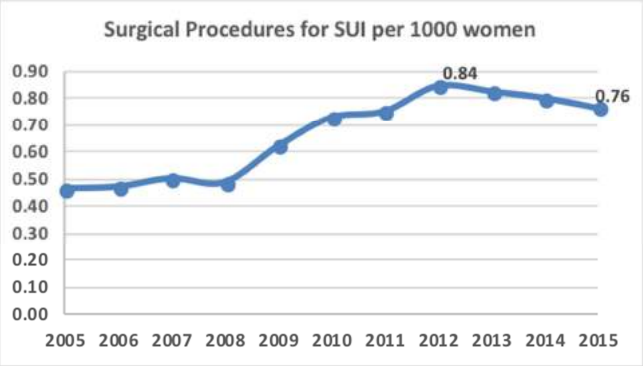
The rate of surgical procedures performed to treat SUI has been on the rise over the last decades and has become a substantially prevalent medical condition among women world-wide. It is important to study the patterns and related issues behind the statistics.

CONCLUSIONS

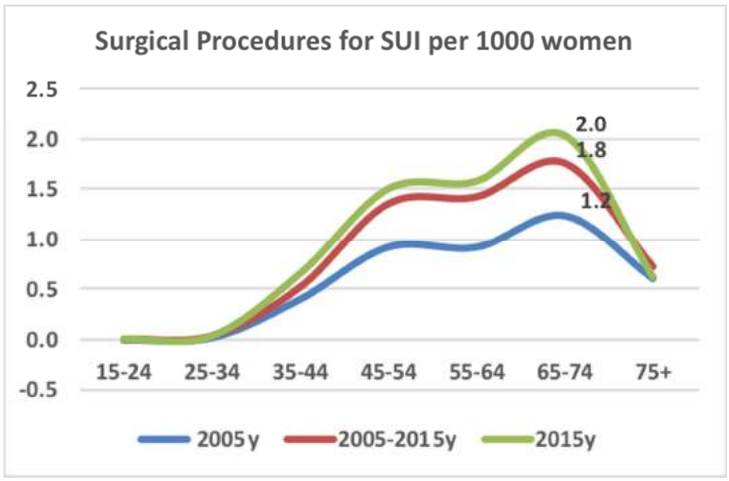
SUI appears to be a common problem in Israel, undoubtedly affecting an even larger proportion of patients than has been suggested previously.

The rate of reoperation is significantly lower in Israel than reported in the literature, and the reasons for this fact should be explored.

Graph 1



Graph 2


Surgical Procedures for SUI per 1000 women
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
2.0
1.8
1.2
15-24
25-34
35-44
45-54
55-64
65-74
75+
2005y
2005-2015y
2015y

88 - THE IMPACT OF MIRABEGRON ON SEXUAL FUNCTION IN WOMEN WITH OVERACTIVE BLADDER

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INTRODUCTION AND AIM OF THE STUDY

Overactive Bladder (OAB) is a highly prevalent syndrome that can often have a negative impact on female sexual function. Mirabegron has been demonstrated to be effective and safe in the treatment of OAB but there is limited knowledge about its impact on female sexual dysfunction (FSD). Aim of our study was to evaluate the impact of Mirabegron (Betmiga®) on sexual function in women with OAB.

MATERIALS AND METHODS

An observational prospective study was conducted in two Italian centers. Fifty sexually active women with idiopathic OAB (including urgency with or without urgency urinary incontinence (UUI) and increased urinary frequency) were enrolled. At baseline, all patients underwent urogynecologic assessments (physical examination, 3- day voiding diary and uroflowmetry with post- void residual volume (PVR)), a validated Italian version of “Female Sexual Function Index” (FSFI) questionnaire, “International Consultation on Incontinence Questionnaire- Short Form” (ICIQ-SF) questionnaire and VAS to score the impact of urinary symptoms on Quality of Life (QoL; 0= worse; 10= best). Patients started assuming Mirabegron 50 mg once daily. Baseline evaluations were repeated again at 12 weeks follow- up. Side effects were also noted.

RESULTS

All patients completed the study. Mean ± SD age was 49.3 ± 11.3 yrs. Clinical results related to the baseline evaluation and to the 12 weeks follow- up have been reported in the Table. 8/50 patients (16%) had coital incontinence. Sexuality was assessed using the FSFI questionnaire: at baseline 49/50 patients (98%) had FSD (FSFI Total Score < 26.55). At 12 weeks follow- up, 42/50 patients (84%) reported improvements in FSFI Total Score and 16 patients (32%) had no FSD. Mean ± SD FSFI Total Score significantly increased from 18.9 ± 4.3 to 21.8 ± 4.5 ($p< 0.0001$). Mean ± SD ICIQ-SF score significantly increased from 17.1 ± 5 (pathologic value) to 7.9 ± 4.8 (normal value; $p< 0.0001$). Most importantly, the mean ± SD VAS score significantly increased from 3.9 ± 1.2 to 6.9 ± 1.2 ($p< 0.0001$). We did not observe any intolerable side effects.

INTERPRETATION OF RESULTS

In the last decade, an enormous interest has emerged in sexual life of patients affected by OAB. However, there is still limited knowledge about the impact of OAB therapies on sexual function.
The present study showed that the treatment with the β3- agonist Mirabegron and a corresponding improvement in OAB symptoms could be associated with an amelioration on FSD.

CONCLUSIONS

The results of the present study represent, to the best of our knowledge, the first observation on the impact of Mirabegron on FSD in OAB patients. Mirabegron not only control urinary symptoms in women with OAB, but also induce a significant improvement in their sexual life.

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Table

	Baseline (mean ± SD)	12 weeks follow- up (mean ± SD)	*p* value
Day- time urinary frequency (no. episodes/ day)	10.1 ± 2.2	6 ± 1.1	<0.0001
Night- time urinary frequency (no. episodes/ day)	1.6 ± 1.2	0.7 ± 0.8	0.0001
Urgency (no. episodes/ day)	5.2 ± 2.3	2.3 ± 1.8	<0.0001
Urge urinary incontinence (no. episodes/ day)	2.1 ± 1.3	0.7 ± 0.9	<0.0001
Q. max (ml/sec)	25.1 ± 8.3	25.2 ± 7.9	0.83
Post- void residual volume (ml)	5.8 ± 9.5	3 ± 5.8	0.32

89 - SEVERE MULTICOMPARTMENTAL PELVIC ORGAN PROLAPSE. IS THERE A LONG-TERM CURE?

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Introduction

The Vaginally Assisted Laparoscopic Sacrocolpopexy (VALS) is a combined vaginal and laparoscopic surgical approach that has been described for the treatment of women with uterus who suffer from severe multicompartmental pelvic organ prolapse (POP). The aim of this study is to evaluate the long-term anatomical and functional outcomes and report the long-term mesh related complications.

Methods

This was a single center prospective study of women with advanced POP who underwent VALS with at least 3 years follow-up. Inclusion criteria were women with advanced symptomatic POP stage III or IV, according to the POP-Q system with at least 36 months of follow-up.

The primary outcome was "composite surgical success" defined as: 1) no descent of the vaginal apex (point C) more than one-third into the vaginal canal and no anterior or posterior vaginal wall beyond the hymen (Ba and Bp < 0) (anatomical success) 2) no vaginal bulge symptoms and 3) no re-treatment for prolapse recurrence.

Results

Demographic characteristics of the study population (94 patients) are presented in table 1. The median follow-up was 7 years (range 3-10 years) with a composite surgical success rate of 95.7% (90/94). Failures (4.3%) included: one (1.1%) case of anatomical recurrence (Bp: +1), one woman (1.1%) reporting vaginal bulge symptoms and two woman (2.1%) who underwent a posterior colporraphy 6 and 12 months after primary surgery (reoperation rate: 2.1%). Preoperative and short (1 year) and long-term (median 7 years) postoperative anatomical outcomes are shown in Table 2. All POP-Q ICS points showed statistically significant improvement in both 1 and 7 years apart from TVL, which remained, unchanged.

2/94 patients (2.1%) had been treated for mesh extrusion of the vaginal cuff prior to the follow-up visit. According to the PGI-I scale all women reported improvement in their condition. 75/94 (79.8%) reported being "very much better", while 12 (12.8%) and 7 (7.4%) reported being "much better" and "better" respectively. None of the patients described their condition as "unchanged" or "worse".

Conclusions

The present study provides evidence regarding the long-term efficacy of the VALS in treating women with severe POP. The study showed that after a median follow-up of 7 years, VALS provided excellent rates of anatomical support, symptomatic relief and patient satisfaction with low rates of vaginal extrusion.

The interpretation of the postoperative anatomical results should take into account the fact that the study population included patients suffering from severe POP (median value of point C was +6) (table 2). Previously published studies on laparoscopic SCP included women with less advanced POP. We consider this observation important for surgical planning as it has been shown that preoperative POP stage of III or IV is a significant risk factor for prolapse recurrence after surgery. The study population also included women with low median age (56 years), which has also been found to be an important risk factor for POP recurrences. It appears therefore that even for patients having risk factors for POP recurrence, this combined vaginal-laparoscopic approach offers excellent long-term anatomical outcomes.

Concerns have been raised regarding vaginal placement of the mesh during SCP. In the present study the erosion rate was only 2.1% and no other infective complications were observed. The low extrusion rate observed in the study population might be due to the surgical steps of this procedure. Firstly, the transvaginal steps permit easier tissue dissections, which are performed at the right depth due to the direct visual and haptic feedback during dissections. This allows the meshes to be sutured onto a thick vaginal wall including the pubocervical and the rectovaginal fascias. Moreover the sutures can be placed with facility away from the devascularised vaginal cuff, minimizing thus the risk of extrusion at this level.

The combined VALS technique may be considered as a safe and effective procedure for the treatment of severe POP allowing a long-term anatomical restoration of all compartments with excellent functional outcomes.

Table 1. Demographics of the study population.

	N (%)
Follow-up, median (range)	7 (3-10)

Age, median (range)	56 (41-73)
Parity	
0	0 (0)
1-2	71 (75.5.)
>2	23 (24.54)
BMI, mean (SD)	24.8 (2.6)
Sexually active	70 (74.5)
Preoperative USI	37 (39.4)
Preoperative DO	14 (14.9)
Type of concomitant Surgery	
TVT/ TVT-O	37 (39.4)
Posterior colporraphy / perineoplasty	64 (68.1)
Bilateral salpingoophorectomy	54 (57.4)

SD: Standard deviation
BMI: Body Mass Index
USI: Urodynamic stress incontinence
DO: Detrusor overactivity

Table 2. Short (1year) and long-term (median 7 years) anatomical outcomes of the VALS according to POP-Q system.

POP-Q	Preoperatively (N=94)		Postoperatively (1year) (N=94)		p-value	Postoperatively (>3 years) (N=94)		p-value
	Median (range)	Mean (SD)	Median (range)	Mean (SD)		Median (range)	Mean (SD)	
Aa	2,5 (-2 to 3)	2 (1.2)	-3 (-3 to -1)	-2.7 (0.5)	**<0,001**	-2.5 (-3 to -1)	-2.5 (0.8)	**<0.001**
Ba	5 (-1 to 10)	5 (2.1)	-3 (-3 to -1)	-2.7 (0.4)	**<0,001**	-2.4 (-3 to -1)	-2.3 (0.7)	**<0.001**
Ap	-0,5 (-2.5 to 3)	-0.5 (1.6)	-3 (-3 to -2)	-2.8 (0.3)	**<0,001**	-3,0 (-3 to -1)	-2.7 (0.5)	**<0.001**
Bp	0 (-2.5 to 10)	1.2 (3.2)	-3 (-3 to 1.5)	-2.8 (0.3)	**<0,001**	-3 (-3 to 1)	-2.5 (0.5)	**<0.001**
C	6 (1.5 to 11)	5.5 (2.7)	-8.5 (-12 to -6)	-8.6 (0.9)	**<0,001**	-8 (-12 to -5)	-8.3 (1.3)	**<0.001**
TVL	9 (6 to 12)	9.3 (1)	9 (7 to 12)	9.2 (1.3)	0.284	9,0 (7 to 12)	9.1 (1.3)	0.153
GH	4.5 (2 to 7)	4.3 (0.9)	3 (1.5 to 7)	3.2 (1,2)	**<0,001**	3 (1,5 to 7)	3.2 (1.2)	**<0.001**
PB	3 (2 to 4)	2.9 (0,6)	3 (2 to 4)	3.1 (0,5)	**0.004**	3 (2 to 4)	3.1 (0.5)	**0.004**

VALS: Vaginally assisted laparoscopic sacrocolpopexy
POP-Q: Pelvic Organ Prolapse quantification system

90 - EFFECT OF DIET ON PELVIC ORGAN PROLAPSE

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Pelvic organ prolapse can significantly affect women's daily activities, bladder, bowel and sexual function thus impacting their quality of life. It affects as many as 50% of the women who have had children. Surgery for pelvic organ prolapse is one of the most commonly performed inpatient procedures in women over the age of 70. An increase in life expectancy only means an increase in the incidence of prolapse. The exact aetiology of pelvic organ prolapse in unknown however there are many identified risk factors with strong associations. The affect of diet on pelvic organ prolapse in non-obese population is poorly studied.
AIMS: To establish if there is any association between the quality of diet and the severity of prolapse in women with BMI less than 30. Identify the impact of pelvic organ prolapse on quality of life in these patients.
Methods: 60 patients attending the urogynaecology clinic at the Cork University Maternal Hospital who have POP but have not undergone any repair surgery were asked to fill a Food Frequency diet as well as a pelvic organ dysfunction questionnaire (Pelvic Floor Impact Questionnaire. – PFIQ-7). A DASH (Dietary Approaches to Stop Hypertension) score was then constructed for each patient from their dietary intake. Other information gathered included parity, mode of delivery, ethnicity, BMI, types of prolapses and the severity of it according to the Baden Walker Halfway system.
Results: 60 participants were included in this study so far. 80% of participants felt that having POP affected their quality of life. The majority (40%) had symptoms in the mild range (PFIQ-7 score 0%-33%), moderate symptoms were reported by (26%), with severe symptoms reported by (18%). Regardless of their type of prolapse, urinary impact was most commonly reported (84%). There was no statistical significance between the DASH score and the severity of prolapse (p=0.059).

Table 1. Study Response for Pelvic Floor Impact Questionnaire – short Form 7

Patient category	UIQ-7	CRAIQ-7	POPIQ-7	PFIQ-7
Mild	22	13	19	25
Moderate	16	10	13	16
Severe	13	10	7	10
Absent	9	27	21	9

Conclusion: So far the study has failed to establish an association between the quality of diet and severity of prolapse and whether it is related to prolapse in more than one compartment This is an ongoing study, with another centre enrolled in a different country with a predominantly "Mediterranean diet". We aim to increase the number of patients in our study and to recruit other centres with a population of different dietary habits in the hopes of showing different results.
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91 - FESOTERODINE MAY IMPROVE SEXUAL FUNCTION IN WOMEN WITH OAB

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INTRODUCTION AND AIM OF THE STUDY

The overactive bladder syndrome (OAB) is a symptom complex incorporating urinary urgency, with or without urgency urinary incontinence (UUI) and is highly prevalent in women throughout the world. It can have a significant adverse impact on a woman's quality of life and has been shown to negatively impact on sexual function (SF). Although there is a plethora of data detailing the effect of anticholinergics on OAB and general quality of life, scant data are available regarding the impact of anticholinergics on the SF of women with OAB.

The primary aim of this study was to assess the impact on SF, after 12 weeks flexible dose fesoterodine in women with OAB.

MATERIALS AND METHODS

This was a prospective, observational, proof of concept study performed at a single site. Sexually active women with OAB were recruited and the primary endpoint was assessed by completion of the Prolapse and Incontinence Sexual Questionnaire short form (PISQ-12) and the Female Sexual Quality of life questionnaire (SQoL- F) at baseline and week 12. All women received fesoterodine 4mg and were given the option to dose escalate to 8mg after four weeks. The mean difference in questionnaire scores between week 0 and 12 was analysed using dependent T-tests.

RESULTS

Thirty subjects were screened, 28 allocated to treatment of which 20 completed. The mean age of subjects was 42.07 years, mean BMI of 28.87 and parity of 1.46. 60.7% were Caucasian and 35.7% post-menopausal. 64.3% had DO on UDS, 81.5% reported UUI. Overall, 53.7% of subjects opted to dose escalate.

The average PISQ-12 score decreased between week 0 ($\overline{x}$ =15.85, SE =1.74) and week 12 ($\overline{x}$ = 11.5, SE = 1.52). This difference of 4.35 points, BCa 95% CIs [7.35, 1.572], was statistically significant $t_{(19)} = 3.159$, p = 0.005 (See table 1). When looking into the effect of study medication on SA there is an observed reduction in the frequency of Coital incontinence (CI) (mean difference -0.5) but this is just short of significant (p=0.056) yet there is a significant reduction in the restriction of sexual activity caused by fear of incontinence (mean -0.75 p=0.004).

The average SQOL score increased between week 0 ($\overline{x}$ = 66.1, SE = 3.62) and week 12 ($\overline{x}$ = 73.45, SE = 2.42). This difference of 7.35 points, BCa 95% CIs [-2.55, -13], was statistically significant $t_{(19)} = -2.673$, p = 0.015. The greatest changes on the SQOL-F were seen in the questions regarding anxiety and worry related to their sex lives.

Table 1. Change in PISQ-12 scores

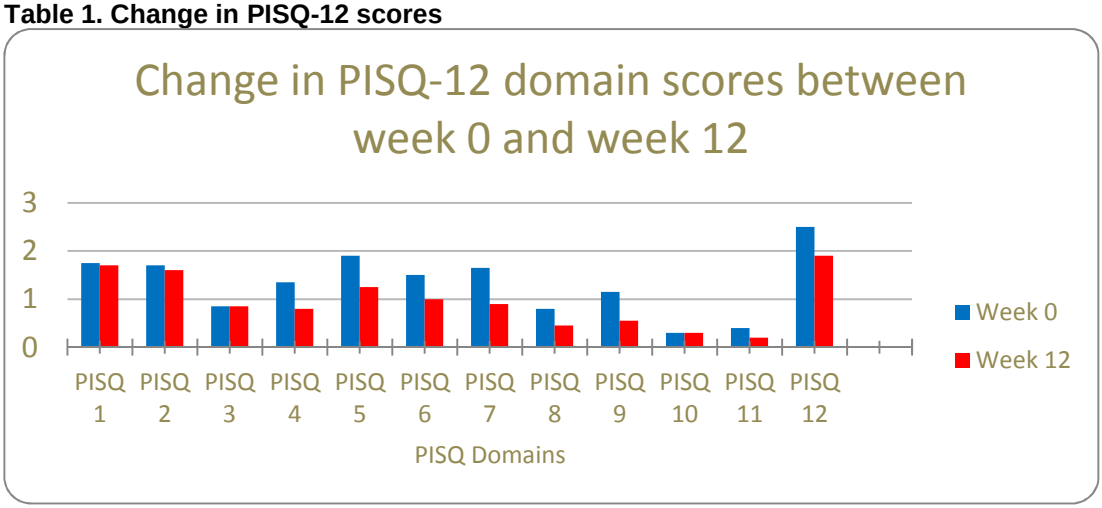
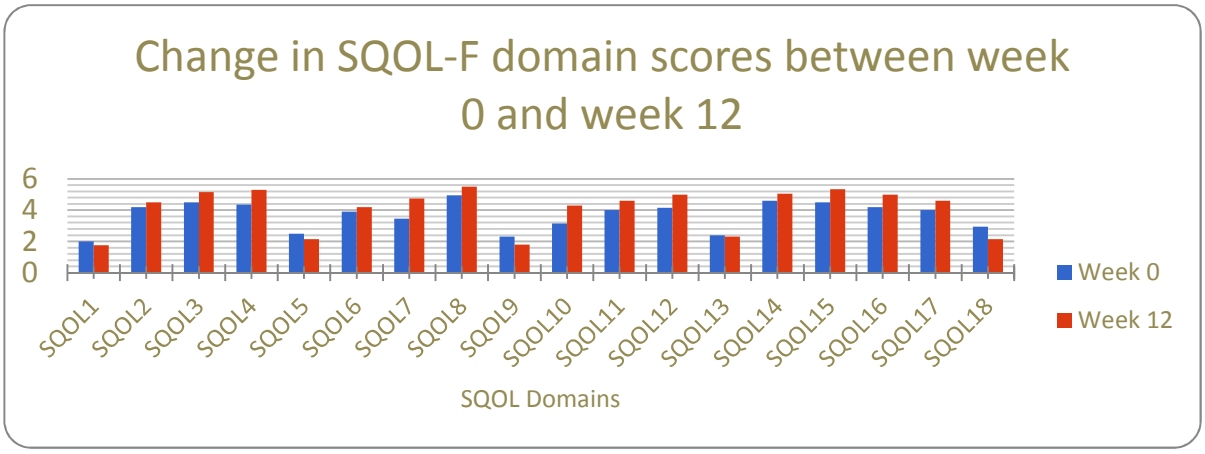


Table 2. Change in SQOL-F scores



INTERPRETATION OF RESULTS

Overall both of the primary outcome measures demonstrated improvements in sexual function following twelve weeks of treatment with fesoterodine. The greatest change in a single item score on the PISQ-12 was seen in Q7 Does fear of incontinence restrict your sexual activity? It has previously been reported that UI during SA can increase anxiety and psychological burden on the patient and this can cause pain and discomfort during SA and difficulty achieving orgasm[1]. Fear of leakage and its consequent embarrassment has been shown to prevent women from participating in sexual activities[2].

In this study, many of the women reported a reduction in incontinence during SA and it could be suggested that in line with this reduction of leakage experienced, the anxiety / fear of UI reduced and resulted in less restrictions on SA. A larger cohort would be needed to fully assess this idea.

Typically, anticholinergic medication is thought to have a negative impact on arousal but in this cohort there was no difference noted between week 0 and week 12 in the arousal domains of the PISQ-12.

There were also considerable improvements seen in the single item scores on the PISQ-12 related to pain during intercourse / negative emotional reactions / intensity of orgasms and fear of UI. It could be hypothesised that if women no longer fear UI during intercourse, it may reduce their anxiety, improve body image and allow them to relax during sex, reducing pain and potentially improving orgasms.

When looking at the difference in individual questions on the PISQ-12, there was no difference reported in Q3. 'Do you feel sexually excited when having SA with your partner?' And Q10 'Does your partner have a problem with erections that affects your SA?' This is as expected as all subjects recruited were in stable sexual relationships so there were no new sexual partners introduced and no intervention was provided for the partners, therefore, if they had pre-existing problems with erections, it was presumed that this would be the same throughout the course of the study. The smallest changes on the SQOL was also seen in the partner related aspects of the questionnaire with most women reporting that they feel close to their partner and that they are able to talk to them about sexual matters. Only a few women in this cohort worried that their partner felt hurt or rejected by their sexual concerns.

CONCLUSIONS

The data from this proof of concept study confirm that it is an appropriate area for investigation and that there is the potential for a positive benefit of fesoterodine for the treatment of OAB on women's SF. However, a larger, appropriately powered study is required to determine the full impact and clinical significance of this.

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92 - TRANSOBTURATORY TAPE VERSUS MINISLING FOR STRESS URINARY INCONTINENCE: SURGICAL OUTCOMES AND ULTRASOUND DATA.

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence is a widespread disturb afflicting from 6 to 69% of women, according to data available, with a median prevalence of 45-50% . Vaginal delivery, vaginal atrophy consequent to menopause, connective tissue disorders and environment factors (i.e. obesity , smoke , BPCO) together with neurological disease or neurological injuries and pelvic organ surgery, strongly influence the onset of this disturb which can present as stress urinary incontinence (SUI) , urge urinary incontinence (UUI), mixed urinary incontinence and post micturitional leakage . Aim of our study was providing a clinical and ultrasound follow-up in patient undergoing surgery for SUI with two different techniques. Progress in surgical approach to Stress Urinary incontinence is leading to the development of less invasive techniques, with same efficacy and feasibility and with lower rate of post-operative complications . On this background, we compared clinical and ultrasound outcomes after the use of Transobturatory Tape (TOT) vs Single Incision Mid-urethral sling. As a matter of fact literature provides few or no data regarding ultrasound characteristics in patients after SUI surgery, even though this aspect could represent a further element of comparison in these patients thanks to new techniques as the use of 3D scan.

MATERIALS AND METHODS

We retrospectively analysed data regarding 30 patients with stress urinary incontinence treated with a surgical approach using TOT (15 patients) or Single Incision mid urethral sling from January 2017 to January 2018. The assessment of the SUI incontinence was made by an Urogynecologist using anamnestic and clinical (Q-tip and stress test) examination and administrating the ICI-Q-SF test. The preoperative workup in these patients was comprehensive of a urodynamic examination, an ultrasound scan of kidneys, ureters and bladder, a transvaginal US and a pap test. Patient with neurological diseases, mixed urinary incontinence, previous SUI surgery and POP-Q >2° degree prolapse were not included. Three expert uroginecologist, helped by residents, used a Transobturatory approach (810081-GYNECARE TVT OBTURATOR TENSION FREE SUPPORT FOR INCONTINENCE) versus a single incision mid urethral sling or mini-sling (ALTIS® COLOPLAST) according to NICE 2015 Guidelines and surgeon's choice based on personal experience. The follow up was based on clinical examination (stress test, Q-tip test), PGI-I index, and ICI-Q-SF test to evaluate the improving in symptoms, quality of life and/or SUI recurrence after one month, three months up to one year post operatively (for patients operated in January 2017). We performed a ultrasound examination at the three months FUP (2D, 3D with sagittal and axial examination of volumes using an US probe, BK medical, flex focus). Statistical analysis was performed using SPSS program 13.0 for Windows.

RESULTS

At the post-operative FUP all patients presented a regular vaginal profile. All patients showed an improving in symptoms. None of the patients presented post voidal residual or voiding dysfunction in both groups. Only one patient in TOT group showed residual SUI (at high bladder volume i.e. 400 cc) but still referring an improvement in ICI-Q-F questionnaire. In both groups a urge onset (often associated to UUI) was observed with no significant differences. All patients showed improvement in personal satisfaction: 100 % of mini-sling patient had PGI-I of 3 (range 1-3) and 60% of TOT had a PGI-I 3, 40 % had a PGI I of 2. Both groups showed a significant improvement in ICI-Q–SF questionnaire, with no significant differences in the two groups. The US examination at three months considered the following parameters: distance sling-internal urethra sphincter, distance sling- lumen of urethra, presence of curling/twisting, distance sling- symphysis of pubic bone, angle formed by the sling branches. There were no significant differences in the two groups.

INTERPRETATION OF RESULTS

Even though we found no significant differences both for clinical and US outcomes between the two groups, the US examination showed a higher value of the median of the distance between the sling and urethra lumen in the mini sling group rather than TOT group with a wider angle between the sling branches in TOT group. These data need to be further investigated but could explain how the mid urethral sling guarantee the continence mechanism and we are confident that further data could be collected with wider samples of patients. The US examination could also explain the urge symptoms onset in a minority of patients as we could observe.

CONCLUSIONS

The aim of the present study was to compare two surgical techniques TOT vs Mini-sling with the help of 2D and 3D US scan. This was an important tool to help finding correlations between anatomy, the real in vivo morphology of the sling and clinical-functional outcomes. As a matter of fact, we can by now consider TOT and mini-sling as two valuable techniques to treat SUI and our small study can allow us to assess coarse differences between the two groups that need to be further investigated.

93 - HYDEAL-D VAGINAL PESSARIES FOR THE TREATMENT OF VULVOVAGINAL ATROPHY IN POST-MENOPAUSAL WOMEN: A PROSPECTIVE CLINICAL INVESTIGATION.

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INTRODUCTION AND AIM OF THE STUDY

Vulvovaginal atrophy is a condition occurring at any time in a woman's life cycle, although it is more common in the postmenopausal phase, a time of hypoestrogenism. Therapies with vaginal lubricants and moisturizers are considered first-line therapies for this condition since they give rise to a hydrating effect to the vaginal mucosa and help to regain elasticity and softness, recreating the lubrication film that characterizes the fertile period. Hyaluronic acid (HA)-based moisturizers have been demonstrated to be efficient in treating the dryness and irritation states of the vaginal epithelium helping in restoration of natural suppleness and softness [1-3].

This prospective clinical investigation aimed to assess the effectiveness and the safety of Hydeal-D vaginal pessaries, composed by an ester of HA, Hydeal-D, in the treatment of vulvovaginal atrophy in post-menopause women (ClinicalTrials.gov Identifier: NCT03557398).

MATERIALS AND METHODS

Forty post-menopause women, with a mean age of 57.1 yrs (± 5.90) were enrolled in the study in two Slovak sites. Women received one Hydeal-D vaginal pessary every three days to a total of twelve consecutive weeks. Primary outcome was the change from baseline of the average score of Vaginal Health Index (VHI) after 3 months of treatment. Secondary outcomes were: VHI after 1 month, vaginal pH, patient's perception of vulvovaginal symptoms, Female Sexual Function Index (FSFI) and Female Sexual Distress Scale-Revised (FSDS-R), Vaginal maturation (VM) index and patient's global assessment (PTGA) of overall satisfaction. Changes between baseline and month 1 and 3 were assessed. Local tolerability at the application site and safety of the treatment were recorded. A paired Student's T-test was used to compare differences in scores before and after treatment. For nonparametric values, differences between baseline and follow-up was tested with the Wilcoxon signed rank test.

RESULTS

Each enrolled patient completed the clinical investigation and was evaluable for primary and secondary study endpoints. VHI (study primary outcome) increased considerably during 3-month Hydeal-D vaginal pessaries treatment in overall index (from mean value (±SD) 9.2 (±2.74) at baseline to 18.4 (±3.32) after 3 months, $p<0.0001$) as well as in vaginal elasticity, fluid secretion type and consistency, pH, mucosa epithelial integrity and moisture evaluated separately ($p<0.0001$). Considering secondary study outcomes, a significant VHI improvement was also observed after 1-month treatment (13.8 (±3.41), $p<0.0001$). Significant improvements were also observed after 1- and 3-month treatment in vaginal pH (patients with pH<5 increased from 0% at baseline to 27.5% and 52.5% at 1 and 3 months, respectively, $p<0.0001$), as well as in patient's perception of vaginal symptoms associated with VVA (dryness, irritation/itching, soreness, dysuria, dyspareunia). Their total score (decreasing of mean (±SD) symptom score from 7.0 (±2.45) at baseline to 2.5 (±2.09) and 0.5 (±0.85) at 1 and 3 months, respectively, $p<0.0001$). According to FSFI, sexual function improved significantly after 3-month Hydeal-D treatment from baseline (from mean full scale score (±SD) of 22.5 (±6.90) at baseline to 28.5 (±4.76) after 3 months, $p<0.0001$). A significant improvement was also observed in full scale score after 1-month treatment (mean score (±SD) 24.7 (±6.74), $p=0.0142$). Even the personal distress assessed by FSDS-R significantly reduced from baseline at month 1 and 3 (from mean value (±SD) 14.8 (±14.22) to 13.6 (±14.06) and 8.6 (±9.80) at 1 and 3 months, respectively, $p<0.0001$). Mean VM index significantly improved from baseline to month 3 (from mean value (±SD) 54.6% (±21.38) at baseline to 62.8% (±15.22) after 3 months, $p=0.0022$) with a significant decrease in percentage of parabasal cells ($p=0.0004$). 92.5% of patients reported their global satisfaction as moderately satisfied to greatly satisfied already after 1 month of treatment, but number of patients with higher satisfaction grade considerably increased after 3 month. The local tolerability was evaluated as excellent by the investigators in 100% of patients and by the patients in 97.5% of cases (the remaining 2.5% of patients evaluated local tolerability as good). No severe adverse event was reported. Only 2 adverse events were reported as mild vulvovaginal erythema that recovered spontaneously.

INTERPRETATION OF RESULTS

Results of this clinical investigation proved that treatment with Hydeal-D vaginal pessaries is effective and safe and that it provides significant relieve in signs and symptoms of VVA in post-menopausal women. Statistically and clinically relevant improvement was observed already after 1-month treatment, however 3-

month treatment led to even better outcomes with an important clinical improvement versus baseline conditions for some parameters.

CONCLUSIONS

This clinical investigation showed significant relieve in objective and subjective VVA signs and symptoms in post-menopause women receiving Hydeal-D vaginal pessaries treatment. Therefore, considering the highly favourable safety and tolerability profile of the study device, Hydeal-D vaginal pessaries could represent an effective and safe therapeutic option for post-menopause women with VVA.

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94 - TRANSVAGINAL MESH SURGERY FOR PELVIC ORGAN PROLAPSE IMPACT ON PATIENTS' QUALITY OF LIFE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic Organ Prolapse (POP) determinates anatomical and functional disorder of the genitourinary system but can also affect sexual and intestinal function. Patients with POP may complain about symptoms related to sensory function or pelvic pain, prolapse, anorectal dysfunction and lower urinary tract but may also complain about loss of energy, sadness and quality of life impairment.
Transvaginal mesh repair aims to restore the pelvic anatomy and to increase patients' quality of life. Though POP symptoms may widely vary and are subjective, questionnaires investigating urinary, vaginal, bowel and sexual symptoms can be measured to evaluate surgical outcomes after POP repair. Aim of this study is to evaluate the anatomical and functio

MATERIALS AND METHODS

Data coming from women treated with surgical POP repair in our tertiary referral center from 2008 were retrospectively collected. POP was measured according to the Half Way System (HWS) classification. Patients' characteristics, operative and post-operative data were collected. Follow-up was carried out at month 3,6 and 12 and then yearly. Sexual function was measured through FSFI (Female Sexual Function Index) questionnaire which evaluates 6 main domains (desire, arousal, lubrication, orgasm, satisfaction and pain). Minimum follow up was 12 months. FSFI score was assessed in women who had an active sexual life before and after POP surgical repair.

RESULTS

A total of 168 patients were enrolled, however 34 (20,2%) were lost at long term follow up. Median follow up was 62 months (IQR 38-96). Overall, patients perceived a relevant improvement from surgery according to PGI-I at month 12 and at last follow up. Incontinence, as evaluated through IIQ 7-SF and UDI-6, improved after surgery even at long term follow up, but some patients had concomitant or deferred stress incontinence surgery that could explain this result. UDI-6 also improved for resolution of prolapse. QoL (quality of life), as evaluated through P-QoL, globally improved in patient undergone to surgery.

INTERPRETATION OF RESULTS

P-QoL improvement was statistically significant in all items except Personal Relationship and Sleep Energy, maybe because not all patients considered POP a severe limitation before surgery, thus explaining the results. Furthermore, ageing may also influence the results, especially in P-QoL Energy. All results and patients' characteristics are summarized in Table 1. Main limitation is high rate of lost at follow-up, that may affect long term outcomes in QoL and possibly hide a relevant percentage of patients that may develop complications or relapse after minimum 12 months follow-upTransvaginal mesh repair still represents a good option for women with POP: in addition, surgical repair is associated with a statistically significant improvement in QoL items.

CONCLUSIONS

According to our experience, vaginal mesh repair allows to obtain good anatomical and functional results in high volume centers performed by experienced surgeons.

TABLE 1

Quality of Life (QoL) and Transvaginal Mesh Repair for Pelvic Organ Prolapse		Preoperative Characteristics (n=168)	12 months Follow Up Characteristics (n=168)	Last Follow Up Characteristics (n=134)	P value
Age (years), median (IQR)		68 (62-73)	69 (63-73)	73 (67-77)	
BMI (Kg/m^2), median (IQR)		24,9 (22,3-28,9)	24,9 (22,4-28,9)	25,1 (22,5-29,3)	
Anterior Compartment Prolapse (HWS), n (%)	3-4	160 (95,2%)	5 (3,7%)	3 (2,2%)	
Medium Compartment Prolapse (HWS), n (%)	3-4	48 (28,6%)	7 (4,2%)	1 (0,7%)	
Posterior Compartment Prolapse (HWS), n (%)	3-4	31 (18,5%)	8 (4,8%)	2 (1,5%)	
PGI-I, median (IQR)		NA	2,3 (1-3)	2,1 (1-3)	

IIQ7-SF, mean (SD)		34,1 (13,6)	10,9 (8,7)	10,2 (8,8)	<0,0001
UDI-6, mean (SD)		7,8 (2,3)	4,3 (2,3)	4,1 (2,2)	<0,0001
P-QoL, mean (SD)	General Health Perceived	61,5 (8,2)	70,9 (8,3)	70,1 (8,6)	0,012
	Prolapse Impact	67,5 (21,6)	12,6 (10,1)	9,3 (11,4)	<0,0001
	Urogenital Symptoms	35,0 (12,1)	18,9 (10,5)	16,2 (9,3)	0,037
	Prolapse Symptoms	30,6 (17,6)	11,7 (11,2)	10,3 (12,1)	0,042
	Bowel Symptoms	26,7 (14,5)	13,5 (10,3)	11,7 (10,8)	0,033
	Role Limitation	39,7 (16,2)	13,9 (9,0)	10,3 (8,6)	0,011
	Physical Limitation	42,9 (17,0)	14,1 (10,4)	12,2 (10,2)	0,006
	Social Limitation	30,2 (19,1)	6,7 (8,1)	6,1 (7,8)	0,008
	Personal Relationship	30,6 (18,2)	16,8 (14,9)	14,3 (14,1)	0,137
	Emotions	33,9 (19,1)	12,4 (12,8)	11,8 (11,6)	0,027
	Sleep/Energy	6,8 (17,7)	2,9 (8,6)	2,8 (8,3)	0,428
	Severity Measure	35,3 (10,1)	12,5 (7,3)	10,5 (6,8)	0,038

95 - RETROSPECTIVE STUDY TO EVALUATE THE EFFFICACY AND POST-OPERATIVE COMPLICATIONS BETWEEN TRANSOBTURATOR TAPE AND SINGLE INCISION MID-URETHRAL SLINGS

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is defined as “complaint of involuntary loss of urine on effort or physical exertion (e.g.sporting activities), or on sneezing or coughing” [1]. Surgical procedure for treatment of SUI impove during decades. In 2001 Delorme developed the first transobturator tape (TOT) that present a high success rate with postoperative complications such as groin pain [2]. In 2006 single incision mid urethral sling (SMUS) were invented to reduce invasiveness. Primary aim of the study is to evaluate the efficacy of SMUS vs TOT. Secondary objective of the study is to compare postoperative complications in this two procedures.

MATERIALS AND METHODS

We enrolled consecutive naïve women with a diagnosis of urodynamic stress incontinence. Data were prospectively collected and then retrospectively analysed. After a preoperative counselling including efficacy and safety (obtained from the international literature at the time of recruitment) women choose to be submitted to TOT or SMUS. Follow-up evaluation was performed at 30 days, 3 month, 6 month and 12 months postoperatively. Follow-up evaluation included collection of lower urinary tract symptoms, evaluation of post-void residual (PVR), groin pain, recurrent urinary tract infection (rUTI), vaginal erosion. We included only patients who completed postoperative at 12 month. Data between two groups were compared with Student’s t test and a $p<0,05$ was considered significant.

RESULTS

We enrolled 66 patients that matches inclusion criteria. Mean age 59 years old (41-84 years old). 37 (56%) patients underwent SUMS, 29 (44%) patients underwent TOT. The table below shows objective cure rate and post-operative complications between TOT and SUMS.

	TOT (n =29)	SUMS (n=37)	*P* value
Subjective cure rate	29 (100%)	36 (97.3%)	1
PVR	1 (3.4%)	1 (2.7%)	1
Vaginal erosion	1 (3.4%)	0 (0%)	0.4
De novo OAB	0 (0%)	1 (2.7%)	1
rUTI	1 (3.4%)	1 (2.7%)	1
Groin pain	2 (6.9%)	3 (8.1%)	1

INTERPRETATION OF RESULTS

Subjective cure rate was respectively 100% and 97.3% in TOT and SUMS group. In both groups we reported 1 case of recurrent urinary infection and post-void residue that need a surgical procedure to reduce tension. Only in TOT group we found out a vaginal erosion. 2.7% *de novo* OAB were reported in SUMS group. 8.1% and 6.9% of groin pain were referred in SUMS vs TOT group.

CONCLUSIONS

TOT and SUMS could be considered both safe and effective procedures with low complications for treatment of SUI.

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96 - ROBOTIC SACRAL COLPOPEXY FOR ADVANCED POP: LONG TERM OUTCOMES

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INTRODUCTION AND AIM OF THE STUDY

Currently, there are multiple surgical approaches for the management of advanced apical prolapse. The aim of this study is to assess the short and medium-term anatomical and functional outcomes of different robotic-assisted procedures in the management of advanced pelvic organ prolapse (POP): robotic assisted-abdominal sacrocolpopexy (RASC) for vaginal vault prolapse, supracervical robotic-assisted laparoscopic sacrocolpopexy (SRALS) together named Robotic assisted-abdominal sacral cervico/colpopexy (RSC) and robotic-assisted lateral suspension (R-ALS).

MATERIALS AND METHODS

A total of 70 women with symptomatic stages III and IV POP were evaluated from September 2013. 70 patients with stages III or IV POP involving the apical, anterior and posterior defect, underwent RSC (RASC and SRALS: 19 women with vaginal vault prolapse and 20 with advanced uterus prolapse). We evaluated: total operative time, blood loss, hospital stay, POP-Q score change, quality of life questionnaire in pelvic floor distress (IIQ-7, Wexner score for constipation and fecal incontinence) and female sexual function index (FSFI). Follow-up were scheduled at 6 and 12 months

RESULTS

Anatomical and subjective cure rates at 6 and 12 months for RSC were respectively 97% and 96%, 94% and 96%. In RSC group complications were limited to mild port-site haematoma in 1 patient, which resolved spontaneously.

INTERPRETATION OF RESULTS AND CONCLUSIONS

Robotic assisted-abdominal sacral cervico/colpopexy (RSC) IS a safe and effective procedures for the treatment of advanced POP. In our opinion the RSC procedure is indicated in the presence of an apical and posterior defect (enterocele, high rectocele).

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97 - AUTHORSHIP IN THE LEADING INTERNATIONAL JOURNALS FOR CONTINENCE AND FEMALE PELVIC FLOOR DISORDERS.

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INTRODUCTION AND AIM OF THE STUDY:

The International Urogynecological Association (IUGA) and the International Continence Society (ICS) are the largest global professional organizations that focus on the field of continence and pelvic floor disorders. As stated on their respective websites, both organizations thrive to advance knowledge in this field through their annual meetings and through the publication of their official Journals: the International Urogynecology Journal (IUJ) as the official Journal of the IUGA (2016 Impact Factor:1.937), and Neurourology and Urodynamics Journal (NAU) as the official journal of ICS (2016 Impact factor:3.56).
Although the prevalence of pelvic floor disorders (PFD) in the developing world is arguably comparable to that of the developed world (1), the impact and the effect on Quality of Life of affected women is expected to be more pronounced due to limited access to health care and paucity of human and financial resources. Consequently, research from such countries is crucial in order to address the often peculiar problems in identifying pathology, and formulating specific treatment plans. These should take into account the social and psychological peculiarities of the populations of relevance, as well as the health care policies in place.
The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental economic organisation founded in 1961 and currently englobing 35 member countries (2).The total population of OECD countries comprise only 17% of the world population. OECD members are high-income economies with a very high Human Development Index (HDI) and Gross Domestic Product (GDP) and are regarded as "developed countries" (2).
Our aim in this study is to compare the authorship from the OECD to that of non-OECD countries in IUJ and NAU over the last 3 years.

MATERIALS AND METHODS

All IUJ and NAU publications between June 2015 and June 2018 were manually screened in order to determine the country of origin of the corresponding author of each publication. After exclusion of manuscripts exclusively addressing male urology, publications were arbitrarily classified into 6 categories.

1- Clinical trials
2- Cohort/ Case series
3- Animal studies and In-vitro studies
4- Epidemiological studies (including surveys)
5- Reviews/ Special contributions
6- Case reports/ Videos/ Letters to the editors/ Clinical opinion
7- Others

The publications were then divided into 2 groups depending on the country of affiliation of the corresponding author: OECD countries versus non-OECD countries.

RESULTS

A total of 1475 articles that met the criteria were published in both journals between June 2015 and June 2018 (921 articles in IUJ and 554 articles in NAU). After exclusion of duplicates, 1451 articles were evaluated.
A total of 56 countries of affiliation of the corresponding authors were noted in these publications. Out of these, 29 countries belonged to the OECD group, and contributed to 1220 publications (83.9%) during this period. The remaining 16.1% of publications originated from 27 non-OECD (out of 160) countries.
In both OECD and non-OECD countries, the most common type of publication was Cohort/Case series (31.4% and 27.2% respectively). In addition, clinical trials constituted 14.1% of publications originating from OECD countries, and 14.3% of publications originating from non-OECD countries (Table 1).

	Non-OECD countries	OECD countries
Clinical trials	33 (14.3%)	172 (14.1%)
Cohort/ Case series	63 (27.3%)	383 (31.4%)
Animal studies and In-vitro studies	26 (11.2%)	78 (6.4%)

Epidemiological studies	36 (15.6%)	144 (11.2%)
Reviews/ Special contributions	28 (12.1%)	181 (14.8%)
Case reports/ Videos/ Letters to the editors/ Clinical opinion	41 (17.8%)	205 (16.8%)
Others	4 (1.7%)	57 (4.7%)
Total	231 (100%)	1220 (100%)

The top 5 countries with the highest number of publications during the period studied were USA (25.9%), UK (11.0%), Australia (5.4%), The Netherlands (4.9%), and Brazil (4.1%).

Table 1- Types of articles published in the IUJ and NAU between June 2015 and June 2018

INTERPRETATION OF RESULTS

There is an uneven participation of authorship between OECD and non-OECD countries. Although the study covers only the last 3 years, it is reasonable to assume that the underrepresentation of non-OECD countries prior to 2016 was at least of the current magnitude. It is noteworthy that clinical trials constituted an almost equal share out of the total contributions of each country category.

The results do not allow for exploration of the reasons behind the findings. While countries with struggling economies may not prioritize research in their budget plans, financial allocation to research as a percentage of gross domestic product is far from constant when comparing different countries (3).

It is unclear if the findings reflect actual research activity, selection by researchers of these two journals for submission, or a possible bias in the peer review process of submitted manuscripts. The effect of Language as a barrier cannot be ignored, as both IUJ and NAU accept submissions exclusively in English. Surveying the corresponding authors from non-OECD countries to enquire about obstacles to research and/or publication may help in a more scientific interpretation of the results.

CONCLUSIONS

The vast majority of IUJ and NAU articles originate from 29 countries belonging to the OECD group. The distribution of article types is comparable in OECD and non-OECD countries. The uneven representation could be due to a large differential in research activity, to obstacles in submission, or both. Periodic meetings of the concerned Professional Organizations could serve as a platform to further evaluate and remedy this finding.

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98 - PELVIC ORGAN PROLAPSE AND OVERACTIVE BLADDER SYNDROME

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common clinical condition. Affected patients often complain of impaired quality of life due to bulging, urinary, sexual or bowel symptoms. Symptoms of overactive bladder (OAB) are also frequently reported by patients with POP, up to 88%. Still, the pathophysiology of OAB in patients with POP is not well defined and no consensus has been reached both on the role of urodynamics in investigating such complaints and on the outcome after POP's surgical repair. In fact, studies have shown that OAB symptoms may improve after successful treatment of POP, but de novo symptoms have also been reported.

The aim of the study was to identify risk factors for overall postoperative OAB, persistent OAB and de novo OAB after POP repair.

MATERIALS AND METHODS

Ours was a retrospective study including patients who underwent primary POP repair between 2008 and 2013. Patients with a history of previous surgery for pelvic floor disorders were excluded. Preoperative evaluation included: medical interview, urogenital examination according to Pelvic Organ Prolapse Quantification system (POP-Q) and preoperative urodynamic evaluation.

All patients underwent vaginal hysterectomy followed by high uterosacral ligaments suspension. Additional surgical procedures such as anterior repair, posterior repair or anti-incontinence procedure were performed when indicated.

Patients were followed up one and six months after surgery, then annually with clinical interview and complete urogenital examination. A postoperative descent ≥ stage II in any vaginal compartment or reoperation for POP were considered as recurrence.

RESULTS

518 patients were included. Preoperatively, 36.1% of patients reported OAB symptoms. Pre-operative urodynamic evaluation showed detrusor overactivity in 106 (20.5%).

All patients underwent vaginal hysterectomy followed by high uterosacral ligaments suspension; 87.5% of them underwent anterior repair while 72.8% and 19.5% underwent posterior repair and suburethral sling positioning, respectively. Mean follow up was 32 ± 19 months.

After surgery, OAB was reported by 143 patients (27.6%), with a significant reduction compared to the baseline (p=0.004). In particular postoperative OAB was persistent in 73 (14.1%) and de novo in 70 (13.5%) patients.

Univariate analysis shows that patients with postoperative OAB were older (p=0.0013) and with higher BMI (p=0.0034). Patients with postoperative OAB, more frequently reported preoperative stress urinary incontinence (p=0.0236) and OAB symptoms (p<0.0001), showed more often detrusor overactivity (p=0.0177), had more frequently a concomitant anti-incontinence procedure at the time of prolapse surgery (p=0.0026) and were complaining more about postoperative stress incontinence (p=0.0159) and voiding symptoms (p=0.0117) compared to controls. Moreover, increased BMI (p=0.0011), baseline stress urinary incontinence (p=0.0005) and overactive bladder syndrome (p<0.0001), suburethral sling positioning (0.0310) and postoperative constipation (p=0.0056) resulted as risk factors for OAB persistence after POP surgical repair. Lastly, increasing age (p=0.0087) and postoperative complaining of stress urinary incontinence (p=0.0112) and voiding symptoms (p=0.0053) resulted as risk factors for de novo OAB.

Multivariate analysis is shown in table 1.

	Postoperative OAB		Persistent OAB		De novo OAB	
	P value	OR	P value	OR	P value	OR
Age (years)	**0.0003**	**1.04**	0.39	1.02	**0.0055**	**1.04**
BMI (Kg/m^2)	**0.0396**	**1.06**	0.08	1.07	0.99	1.00
Preoperative OAB	**0.0024**	**2.00**	**<0.0001**	**3.90***	-	-
Preoperative SUI	0.96	1.01	0.75	0.89	0.08	0.55
DO	0.14	1.45	0.52	0.80	0.30	1.38

Suburethral sling	**0.0031**	**2.37**	0.27	1.60	**0.0038**	**2.92**
Postoperative SUI	**0.0076**	**1.96**	0.79	1.11	**0.0017**	**2.59**
Postoperative voiding symptoms	0.10	1.59	0.52	1.36	**0.0243**	**2.09**
Postoperative constipation	0.05	1.61	**0.0242**	**2.30**	0.79	0.92

Table 1- Multivariate analysis

INTERPRETATION OF RESULTS

Our study demonstrated that increasing age and BMI, preoperative OAB, concomitant suburethral sling procedure and postoperative stress urinary incontinence were independent risk factors for overall OAB after POP repair. Moreover, preoperative OAB and postoperative constipation resulted independently associated with OAB's persistence after POP surgery. On the other hand, de novo OAB was found to be independently related to aging, suburethral tape positioning and postoperative SUI and voiding symptoms.

In line with Baessler's and Maher's results of a resolution of OAB symptoms in 40% of women undergoing POP surgery [1], we found a significant reduction in OAB rate after prolapse's repair. Interestingly, the same review estimated a 12% of de novo bladder overactivity occurance after surgery for POP which is also consistent with the 13.7% rate we found in our series [1].

To be noted is that, concomitantant anti-incontinence procedure proved to be the factor increasing the most the risk of de novo OAB after surgery while, preoperative OAB, resulted to be the strongest risk factor for postoperative OAB persistence; finding also consistent with previous studies [2]. Moreover, the fact that stress urinary incontinence and voiding dysfunctions were associated to de novo OAB, seems to indicate that in some patients after POP surgery, de novo OAB and other lower urinary tract symptoms can cluster, probably because prolapse repair hypercorrection, tissue over-tensioning or improper sling positioning may introduce some alteration in the micturition process.

On the contrary, urodynamics failed to be a reliable predictor of either de novo or persistent OAB, result which is also in line with previous works. [3].

CONCLUSIONS

Our study showed that preoperative OAB symptoms are associated with OAB persistence after POP surgery, while aging and sling positioning represent risk factors for de novo OAB. In addition, increased BMI is also related to postoperative OAB. Urodynamic evaluation was not able to predict postoperative OAB.

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99 - IS THE URINE DIPSTICK USEFUL IN SCREENING THE ASYMPTOMATIC PREGNANT WOMAN?

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INTRODUCTION AND AIM OF THE STUDY

Pregnancy induces unique physiological changes to the urinary tract, leaving pregnant women more susceptible to pyelonephritis. Beginning at the eighth week of pregnancy, the renal pelvis and ureters dilate, and the bladder itself is displaced superiorly and anteriorly. Mechanical compression secondary to an enlarging uterus is the principle cause of these changes; however smooth muscle relaxation secondary to progesterone action is also thought to play a role. Decreased ureteric peristalsis, increased bladder capacity, and urinary stasis result from smooth muscle relaxation [1].
Screening for and treatment of asymptomatic bacteriuria in pregnancy has become the worldwide standard of care, with most guidelines recommending routine screening for asymptomatic bacteriuria [1]. Typically screening is performed using mid-stream urine culture and sensitivity.
Urine dipstick with combination components of leucocyte esterase and nitrite are a commonly used test for rapid diagnosis of cystitis in both the pregnant and non-pregnant populations.
Leucocyte esterase is a common positive finding on urine dipstick, and is due to the release of esterase from white blood cells in the urine. Positive dipstick results can lead to the diagnosis of a urinary tract infection, and typically antibiotic administration. This study was undertaken to determine what proportion of asymptomatic pregnant patients had positive urine dipstick testing, and whether this was related to asymptomatic bacteriuria.

MATERIALS AND METHODS

This was a prospective cohort study of 300 women attending routine antenatal clinics over a six-week period in May-June 2018. Patients complaining of urinary symptoms or those attending non-routine visits were excluded. Samples were analysed using an automated urine dipstick analyser (Clinitek Status ®, Siemens, USA). Gestational age was recorded as weeks completed. Maternal age, parity, and BMI were recorded.
Urinalysis results were quantified into six categories; negative, trace, 1+, 2+, 3+, and 4+. For this study a negative result was defined as either “negative” or “trace”, while a positive result was recorded for 1+ to 4+. Samples were analysed microscopically for the presence of white blood cells, red blood cells, bacteria, and epithelial cells. All samples were cultured, and sensitivities provided, if appropriate.
This study was deemed exempt by the hospital ethics review board. Data analysis was performed using R3.5.0 (R Foundation for Statistical Computing, Vienna, Austria). Categorical variables were analysed using Chi-squared test or Fisher’s Exact Test, as appropriate. Two tailed p-values were used throughout, and the 5% level was deemed significant.

RESULTS

300 samples were analysed between 6th May and 18th June 2018. The mean (range) maternal age was 31 (16–46) and mean (range) BMI was 27.8 (17.6–50.4). 74.0% (222/300) were from multiparous women, with 26.0% (78/300) from primiparous women. The mean (range) gestational age was 33 (25–41). Urine dipstick results are summarised in Table 1.

Table 1: Urine dipstick results in 300 asymptomatic pregnant women

	Urinalysis Results				
Test	**Negative**	**Trace**	**1+**	**2+**	**3+**
Glucose	276 (92.0)	17 (5.7)	0 (0.0)	6 (2.0)	1 (0.3)
Blood	247 (82.3)	45 (15.0)	4 (1.3)	3 (1.0)	1 (0.3)
Protein	227 (75.7)	32 (10.7)	32 (10.7)	8 (2.7)	1 (0.3)
Ketones	248 (82.7)	34 (11.3)	13 (4.3)	2 (0.7)	0 (0.0)
Leucocyte Esterase	154 (51.3)	45 (15.0)	66 (22.0)	16 (5.3)	19 (6.3)

Results presented as n (%)

9.7% (29/300) of samples had a positive culture for a single organism. Of these, 27.6% (8/29) were negative for pyuria on microscopy. 46.7% (140/300) of samples were positive for two or more organisms (mixed culture). 43.7% (131/300) of samples had a negative culture. Organisms isolated were Enterococcus faecalis (11 cases), Escherichia coli (9), Streptococcus agalactiae [GBS] (5), Candida albicans (2), Candida dubliniensis (1), and Candida lusitaniae (1).

There was no significant difference in the rates of positive urine culture between primiparous and multiparous women (χ-squared = 0.826, df = 1, p = 0.364). On multiple regression analysis maternal age, gestational age, parity, and BMI were not found to be significant predictors of a positive urine culture. BMI conferred a risk of producing a contaminated mixed culture after controlling for maternal age, gestational age, and parity (OR 1.07, 95% CI 1.03 – 1.12, p < 0.001).

INTERPRETATION OF RESULTS

There is a high rate of positive urine dipstick and mixed culture in asymptomatic pregnant women, in our population. These findings likely reflect significant contamination rather than true bacteriuria. Increased BMI appears to confer a risk in producing a contaminated urine sample, while maternal age, gestational age, and parity do not. Organisms isolated were similar to those reported in the literature [2].

CONCLUSIONS

Reducing the rate of contamination of urine samples is important, either through patient education or with specialised collection devices [3]. Given the high level of contamination the value of urine dipstick as a screening tool for urinary tract infection in the asymptomatic woman is limited clinically. Further research in other centres is warranted to generalise our findings.

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100 - THE DIFFERENCES IN THE SURGICAL KNIFE CONTAMINATION BY BACTERIA DURING VAGINAL UROGYNECOLOGIC SURGERY WITH OR WITHOUT POLYPROPYLENE IMPLANT.

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INTRODUCTION AND AIM OF THE STUDY

All the surgical procedures are connected with the risk of bacterial contamination. These microorganisms have different growth requirements (nutritional, atmospheric, temperature). They may come from e.g. the different areas of the patient's body, which is in relation with the operation's field, most frequent from the skin. The aim of the study was to determine if there are the differences in the contamination of the surgical knife by aerobic and anaerobic bacteria depending on the type of vaginal urogynecologic surgery with or without polypropylene implant.

MATERIALS AND METHODS

The study included 22 surgical knives, which were used for urogynecological procedures [without polypropylene implant - 8, with polypropylene implant -12 (7 slings and 5 anterior prolifts)], lasting from 10 to 45 minutes. Next, the knives were inserted aseptically into the thioglycolate broth and incubated at 35 °C for 7-14 days, then transferred on the agar media. Bacteria were identified on the basis of morphological characteristics and protein profile using the MALDI-TOF MS technique.

RESULTS

There were differences in the contamination of the surgical knives depending on the type of the surgery procedures. In the group of vaginal operations without implants, there was an increase mainly in Gram-positive aerobic bacteria (*Staphylococcus* spp., *Streptococcus* spp., *Enterococcus* spp.) – 5/8 (62.5%). Moreover in two cases the presence of Gram-negative *Klebsiella pneumoniae* was shown. Of the anaerobic bacteria in one case *Bifidobacetrium breve* 1/8 (12.5%) was detected. In two cases no bacterial growth was observed (2/8, 25%). In the group of vaginal operations with implants knives were contaminated mainly with the both aerobic and anaerobic bacteria 6/12 (50%), and with lowest percentage with only aerobic 3/12 (25%), or anaerobic 3/12 (25%) bacteria.

INTERPRETATION OF RESULTS

Microbial species isolated from surgical knives used during operation without implant show that bacteria can come from the skin or operated organs. Mainly Gram-positive species were isolated. Increased using of surgical knives during operations with implants resulted in their highest contamination by bacteria. For this reason, they should be changed more often during the procedure.

CONCLUSIONS

Increased contamination by aerobic and anaerobic bacteria has been demonstrated in the group of surgical knives used during urogynecologic procedures with implants

101 - THE INTRODUCTION OF A STANDARDISED PERINEAL CARE BUNDLE TO REDUCE THE RISK OF OBSTETRIC ANAL SPHINCTER INJURIES.

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIS) pose a burden on all obstetric units with incidences rising over the last decade. In the UK the overall incidence is 2.9% with rates varying between 0-8% in different units.[1] Reports on obstetric practice in the UK showed variation in practice during delivery which may explain the heterogeneity in OASIS rates.[2]

Patients and health professionals' awareness of this problem, in addition to adequate training in identification and management of tears are essential in reducing OASIS and their associated complications. Efforts to standardise practice across the UK are underway with the pilot of the OASI care bundle project by the Royal College of Obstetricians and Gynaecologists and the Royal College of Midwives.

	December	January	February	March	April	May
Total No. 3/4th degree tears	2.7%	2.3%	1.6%	3.1%	2.2%	1.8%
Spontaneous	4%	3.5%	2.8%	5.3%	2.8%	5.3%
Instrumental	3.6%	2.7%	0%	0%	0%	0%

We performed a retrospective audit with the aim of identifying the incidence of obstetric anal sphincter injuries in our department. The audit assessed patient risk factors, prevention methods undertaken at time of delivery, repair techniques and follow up. Following on from the audit, a local perineal bundle was introduced to standardise practice. The incidence of sphincter injuries was re-audited post implementation of the bundle. The perineal care bundle includes the following:

- Training day for all midwives and obtetricians on delivery techniques to reduce OASIS e.g. the finnish grip, correct identification and appropriate repair of tears.
- Introduction of the use of episcissors (Scissors with a pre-set mediolateral 60 degree episiotomy angle).
- Patient information leaflet on anal sphincter injuries.
- A documentation proforma to be used with every vaginal delivery. This acts as a memory aid and audit tool of delivery techniques and post delivery perineal care. It also includes appropriate education of the patient on the type of tear sustained and appropriate after care.

MATERIALS AND METHODS

We identified 114 anal sphincter injuries between June 2016 – June 2017 using our online database. We collected data on the following:

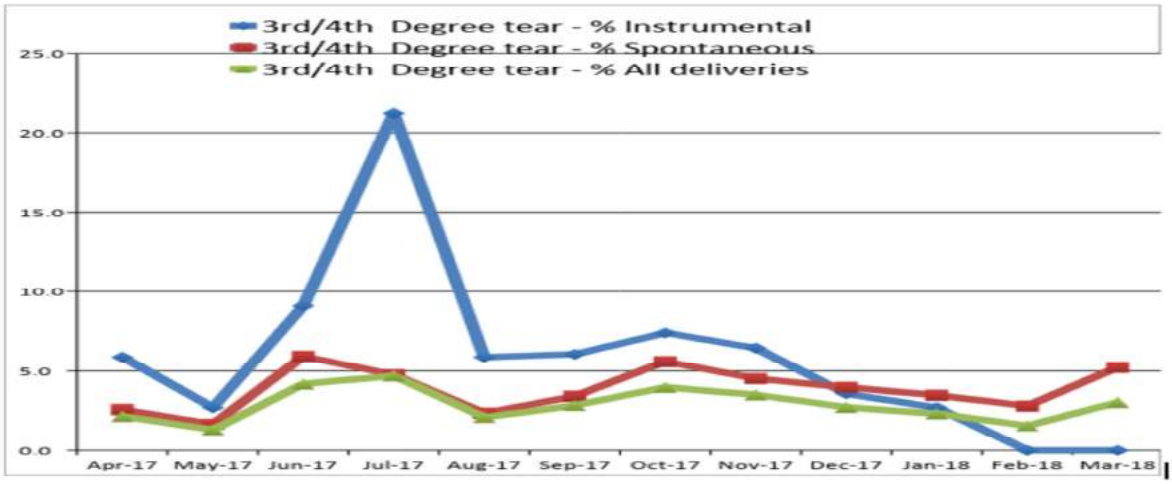
- Antenatal risk factors: birth weight and parity.
- Intrapartum risk factors: type of delivery achieved, length of second stage of labour, use of episiotomy, perineal support during delivery, place of delivery and presence of shoulder dystocia.
- Operator level of training, type of tear, method of repair, complications and follow up post operatively.

RESULTS

The overall incidence of OASIS in this time period was 5%. 85% of tears occurred in primiparous women. Over half of the cases were diagnosed as type 3a tears. 19% of 3a tears had symptoms of urgency, incontinence or dyspareunia at follow up. One tear was re-classified to 3c after endoanal ultrasound scan. 78% of tears occurred with a birth weight of 3Kg-4Kg. 68% of tears occurred in vaginal deliveries vs. 32% with instrumental deliveries. In 11% of instrumental deliveries no episiotomy was performed. No documentation on type or angle of episiotomy given.Perineal support during vaginal delivery was found in only 12% of cases. The perineal care bundle was introduced in January 2018 and the incidence of OASIS continues to be montiored. There was a remarkable reduction in tears following instrumental deliveries, achieving 0% for four consecutive months. This is shown in Table 1 & Figure 1. There was also a noticeable reduction in tears occurring after spontaneous vaginal deliveries.

Table 1

Figure 1



INTERPRETATION OF RESULTS

The high level of spontaneous vaginal deliveries resulting in tears highlights the importance of midwife training on perineal support, the use of warm compression during vaginal deliveries and the consideration of episiotomy particularly in primiparous patients. The majority of tears were classified as 3a however a considerable proportion suffered complications, this raises the possibility of incorrect classification and highlights the importance of training in that area.

The undeniable drop in OASIS rates in our unit since the introduction of the perineal care bundle emphasises the importance of standardising care and the success that can be achieved from a multidisciplinary bundle approach. An audit is currently being undertaken to assess the provision of patient information leaflets and the use of the taught delivery techniques and the delivery proforma.

CONCLUSIONS

We recommend the introduction of a similar perineal care bundle in all obstetric units to standardise and optimise perineal care during and after vaginal delivery.

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102 - "CONCOMITANT STRESS URINARY INCONTINENCE AND PELVIC ORGAN PROLAPSE SURGERY: OPPORTUNITY OR OVERTREATMENT?"

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INTRODUCTION AND AIM OF THE STUDY

The association between pelvic organ prolapse (POP) and stress urinary incontinence (SUI) is very frequent and when POP surgery is indicated and the patient has concomitant SUI there are two strategies of treatment: "one step or two step strategy". ICS and ICI guidelines recommend to perform a urodynamic assessment (UA) before surgery since it can reveal the presence of urodynamic SUI but the role of UA has been discussed because it seems to be unable to improve treatment decisions.
Our aim is to assess the impact of UA in predicting postoperative stress urinary incontinence (POSUI) and therefore which patients can benefit from a concomitant surgery.

MATERIALS AND METHODS

A retrospective evaluation of 155 patients with at least second-degree POP who underwent POP surgery after UA evaluation between 2009 and 2016 in our gynecology and obstetric department: 61 patients were clinically incontinent before surgery and 94 clinically continent. After UA evaluation patients were stratified on an MUCP cut-off of 50 cmH2O and the risk of POSUI was calculated on this value. Patients were divided into three treatment groups: no anterior colporraphy, anterior colporraphy, and anterior colporraphy associated with high vaginal cuff suspension and the risk of POSUI has been calculated in these groups.

RESULTS

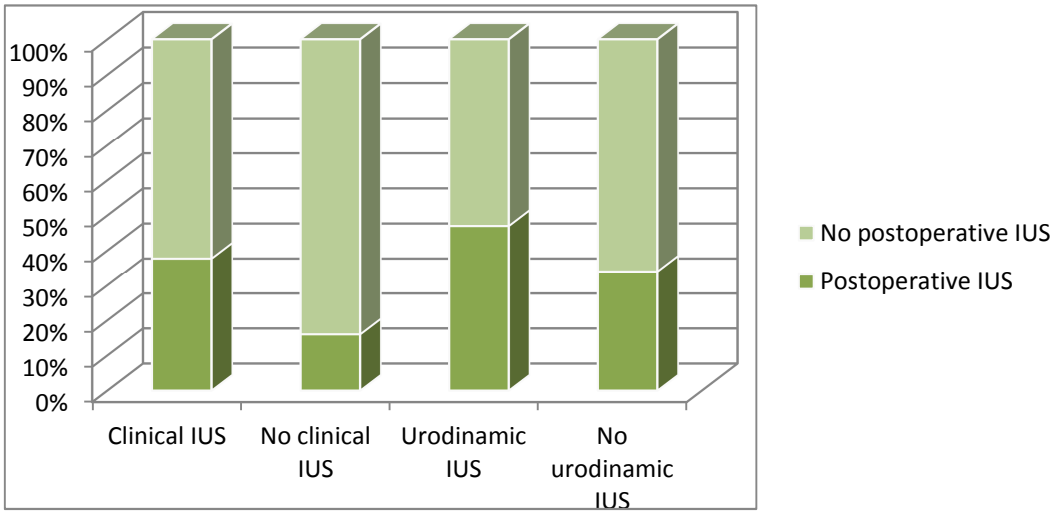
60% of the 61 incontinent patients solves SUI with exclusive POP correction. Moreover, only 30% of them had urodynamic SUI and less than 50% maintained it. Of the 94 continent patients 36% had occult SUI at the UA and only 16% developed de novo POSUI, while 75% of patients with occult SUI doesn't develop de novo SUI. (TAB 1) MUCP resulted lower in patients with POSUI than in patients whitout it, but the difference was not statistically significant (p = 0.013). POSUI probability was higher in patients with MUCP<50cmH_2O and if all these patients were treated, to prevent one POSUI it would be need to treat 2 patients in the incontinent group (NNT=2), and 4 in the continent group (NNT=4). (TAB 2)
8% of patients underwent a second surgery for SUI. Anterior colporraphy doesn't seem to reduce the risk of POSUI (p=0,62).

INTERPRETATION OF RESULTS

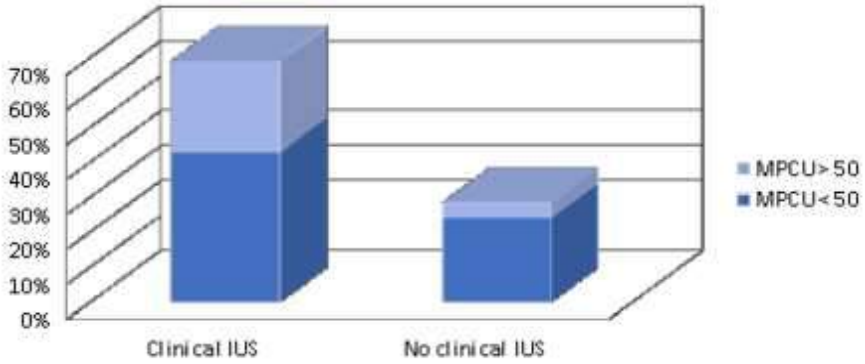
Our results suggest that the best benefit after combined surgery goes to clinical incontinent patient with MUCP at UA lower than 50 cmH2O. In a recent review we can find similar results despite the general finding that vaginal prolapse repair with mediouretral sling reduce the risk of postoperative SUI in women with preoperative SUI symptoms or occult SUI, and reduce the risk of second intervention.(1,2)
On the other side the concomitant surgery has more frequent severe adverse events and in our study 62,3% of patients resolved IUS after only POP surgery so is important not to overtreat these women.
Clinical preoperative IUS is the greater indicator of POSUI, indeed in our trial it increase the risk of POSUI (OR=3,2; IC95% 1,5-6,8; p=0,003).

CONCLUSIONS

Despite the low sample size, we believe that the "two step strategy" results in a lower insertion of midurethral slings with a clear reduction in complications. Patients who seem to benefit more from concomitant correction are the clinically incontinent one with MUCP <50cmH2O. It is important not to focus on the diagnosis of urodynamic SUI in continent patients but to carefully evaluate the MUCP value.



TAB 1. Prevalence of postoperative IUS in relationship with preoperative IUS and urodinamic IUS.



TAB 2: Prevalence of MUCP < 50 cmH2O in patients with post-surgical IUS accounting on clinical pre-surgery IUS.

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103 - TRANSVAGINAL TAPE AS A FIRST LINE SURGICAL TREATMENT OF STRESS INCONTINENCE .

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INTRODUCTION OF THE STUDY: Surgery or other invasive treatment may be considered when conservative & pharmacological treatments have not adequately treated the symptoms assosciated with overactive bladder or SUI. Synthetic mid-urethral tape,open colposuspension or autologus rectus fascial sling are the first line surgical treatment for SUI.

AIMS OF THE STUDY : To assess whether conservative measures like pelvic floor exercise & advice about weight reduction to women with BMI>30 was offered. To assess whether urodynamic testing was offered to women with SUI. To compare the rate of intra & post-operative complications of TVT procedure with national average (as mentioned in NICE guideline no CG 171). To assess improvements in the quality of life for women with SUI.The standard of the study was to compare the care provided at Southend University hospital with the NICE Urinary Incontinence 2013 Guideline no CG171.

MATERIALS AND METHODS : It is a retrospective audit of pre-operative,intraoperative & postoperative care of all patients who underwent TVT operation as treatment of SUI at Southend NHS Trust under the care of Lead Consultant Urogynaecologist between 1999-2014 (15 years). There were 220 patients who had TVT operation during 1999-2014.Out of 220 patients 200 case notes were reviewed.

RESULTS : Appropriate weight reduction advice was offered to women with documented BMI above 30.There were(126) women with BMI<30,(41)women with BMI between 30-35,(10) women with BMI between 35-40 &(1) woman with BMI>40.In about (22) cases BMI was not documented.
Supervised PFE was offered in 199/200 women.Urodynamics was performed in 196/200 women.The grade of operating surgeon as consultant (189),registrar (10),sho (1).
(140/200) women had previous abdominal or vaginal surgery,Concomitant surgery was done in (43) women .TVT was the primary surgery in (196) women.Majority of the cases were done under spinal anaesthetic (189).
Intraoperative complications were few .There were about 6 bladder injuries,1 woman who bled more than 500 mls requiring perioperative transfusion.1 woman had vaginal button hole tear.
(121) women were discharged the following day.(62) women were discharged after two days.(8) women were discharged after three days &(9) women were discharged after 4 days.
There was none who returned to theate within 72 hours.There were about (22/200) who required catheterisation for more than 10 days.There were about 7/200 women who were readmitted to hospital within 30 days for procedure related complications.
Six women were readmitted for retention of urine,one woman developed retroperitoneal haematoma which was conservatively managed with antibiotics.One woman had erosion of graft three years after TVT operation.None of our patients had persistent pain at follow up.
All the woman had follow up after procedure.(117) women had FUP at 6 weeks,(47) women had follow up at 3/12 months,(17) women had FUP at eight weeks & (9) women had FUP at six months.

INTERPRETATION OF RESULTS: In our experience all patients were very pleased with results& felt cured at follow up appointment though a few complained about urgency which improved with weight loss measures,physiotherapy & bladder drill.
We are of the opinion that urodynamics should be offered only if there is suspicion of detrusor overactvity,voiding dysfunction or anterior compartment prolapse or previous surgery with SUI.

CONCLUSIONS: The results of our study prove that our practice is comparable to the national standards in UK.

REFERENCES:NICE Guideline CG 171.
REFERENCES (max. 3)

104 - EFFICACY OF OXYBUTYNIN VERSUS BOTULINUM TOXIN A IN OVERACTIVE BLADDER IN WOMEN WITH MULTIPLE SCLEROSIS.

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INTRODUCTION AND AIM OF THE STUDY

Multiple sclerosis (MS) is a progressive, demyelinating disease of the central nervous system. MS patients frequently suffer from urinary complaints. The prevalence reported in MS for overactive bladder syndrome (OAB) was 37–99%, for obstructive symptoms was 34–79% and for chronic urinary retention was 25%. Some authors showed that OAB symptoms had a major impact on the quality of life (QoL) of patients with MS compared to other urinary symptoms. Anticholinergic agents are the first line treatment for OAB and for more than 30 years oxybutynin has been the drug of choice in patients with neurogenic bladder.

In Italy, oxybutynin is the only drug refunded by national health system for urinary symptoms caused by neurological disease, although it is the least tolerated because of it's side effects (dry mouth, constipation, blurred vision, etc.)

Intravesical injection of Botulinum Toxin A (BTA) has a role in refractory idiopatic and neurogenic detrusor overactivity (NDO), although there are still concerns regarding long term efficacy and side effects. It is indicated as second line treatment for OAB after failure of pharmacological therapy.

The aim of this study was to evaluate subjective and objective efficacy of oxybutynin versus intravesical BTA injections in women with MS with urodynamic diagnosis of NDO.

MATERIALS AND METHODS

One hundred-thirty-four women with MS, complaining of any urinary symptoms, were referred to our Urogynaecologic Unit from 1st July 2017 to 30th May 2018, after neurologic examination in MS Centre of our Hospital. They underwent clinical examination and urodynamic test to assess bladder function.

We enrolled ninety-two consecutive women with MS who had diagnosis of NDO. Fourty-two were excluded because of other diagnosis.

At baseline (T0) urinary symptoms, quality of life and female sexual function were evaluated through self-reported symptoms, MSQOL-29 (Multiple Sclerosis Quality of Life) and Female Sexual Function Index (FSFI) questionnaire. They were treated with oxybutynin 5 mg: 1 tablet twice a day for three months. Some of them dropped out treatment for adverse events and they were scheduled for intravesical BTA 200 I.U.

T1 was 3 months after oxybutynin therapy and BTA injection. They repeated clinical evaluation of urinary symptoms and questionnaire on QoL and FSFI.

Paired Student's t test, Mann Whitney test and Chi Square test were used to compare the values obtained at baseline with those of the follow-ups. Scores are presented as means ±SD. The result was statistically significant when $p<0.05$. Statistical analysis was carried out using the Stata v 11.1 statistical software package and performed by the same clinicians.

RESULTS

Fifty-six women completed the study. Of thirty-six women remaining, twenty-four didn't complete the follow up and twelve dropped out the therapy. Mean age was 53.7 ± 4, BMI was 28 ± 6, parity 1.7 ± 1. Sixteen women (28,5%) were in postmenopausal status. Referred urinary symptoms are frequency (79%), urgency (85%), nocturia (79%), urge urinary incontinence (UUI) (64%), voiding dysfunction (71%), stress urinary incontinence (SUI) (28%), prolapse (0,7%), recurrent cystitis (14%), stipsis (21%). At urodynamic evaluation 20 women (36%) had NDO + UUI, 16 women (28,5%) had bladder-sphincter dyssynergia, 16 (28,5%) had low compliance, 4 women (7%) had SUI, 4 woman (7%) was not evaluable because of reduced mobility. Thirty-six women (64%) were treated with oxybutynin; 20 (36%) were treated with BTA injection because they reported adverse events with oxybutynin. Self-reported symptoms showed that oxybutynin therapy improved only UUI after three months. BTA injection improved frequency, urgency, nocturia and UUI as showed in table 1. On the contrary no differences were found in MSQoL-29 and FSFI between T0 and T1. No voiding dysfunction de novo were reported for both treatments.

Table 1

	Oxybutinin T0 n=36	Oxybutinin T1 n=36	P value	Botulinum T0 n=20	Botulinum T1 n=20	P value

frequency	28 (78%)	16 (44%)	**ns**	16 (80%)	4 (20%)	**0,05**
urgency	28 (78%)	12 (33%)	**ns**	20 (100%)	4 (20%)	**0,01**
nicturia	28 (78%)	12 (33%)	**ns**	16 (80%)	0	**0,01**
UUI	16 (44%)	4 (11%)	**0,02**	20 (100%)	0	**0,04**
Voiding dysfunction	24 (66%)	8 (22%)	**ns**	16 (80%)	8 (40%)	**0,002**
IUS	8 (22%)	4 (11%)	**ns**	8 (40%)	8 (40%)	**ns**

INTERPRETATION OF RESULTS

Of women recruited in the study 36% had adverse effects with oxybutynin treatment, therefore they switched to botulin injection treatment. Our results suggested that oxybutyinin and BTA improved UUI but botulin injection had a greater improvements on symptoms of overactive bladder. This improvement in urinary symptomatology did not correspond in improvement of quality of life and sexual function for women with MS, whose general quality of life is usually affected by other disabilities.

CONCLUSIONS

BTA injection had sows better efficacy in improving OAB symptoms than oxybutynin in women with MS, although this was not enough to improve quality of life and sexual function.

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105 - THE UROGYNAECOLOGY MULTI-DISCIPLINARY MEETING: A SECONDARY CARE PERSPECTIVE

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INTRODUCTION AND AIM OF THE STUDY

Multi-disciplinary Team Meetings (MDTs) have become pivotal in cancer care in the UK since the Calman-Hine report of 1995 [(1)]. Their use has also become more widespread in non-cancer care, in specialties such as Care of the Elderly, Inflammatory Bowel Disease, and many others. The use of MDTs in Urogynaecology has become more widespread since the 2013 NICE Guidance[(2)], and is also recommended by the British Society of Urogynaecology and the Medicines Health Regulatory Agency (MHRA), amongst others. NICE specified the need for MDT input in decision making for patients prior to invasive procedures for urinary incontinence.

Few studies have looked at the Urogynaecology MDT specifically. Gopinath & Jha [(3)] evaluated the outcomes of MDT meetings in a tertiary centre, noting that "a successful team not only provides outstanding service to patients, but also allows the members to learn and support each other, thereby providing a positive working environment and richer work experience."

Urogynaecology services within secondary care settings are often delivered by Gynaecologists with a special interest in Urogynaecology, as well as by Urologists with a special interest in female urology. In some units there may be only 1 such subspecialist, meaning access to second opinion or case discussions may be more difficult to obtain when compared with a subspecialist working as part of a team in a large tertiary unit. The Multidisciplinary team, therefore, can hold added benefit for such professionals, providing consensus opinion and the advantage of increased breadth of experience of multiple clinicians. They also provide additional experience and expert opinion to both trainees and allied health professionals who may not have an existing working relationship with other specialists.

The aim of this retrospective cohort study was established to evaluate the outcomes of the Urogynaecology MDT meetings at a district general hospital, and whether these differ from that of a large tertiary centre.

MATERIALS AND METHODS

Our Urogynaecology MDT was established in 2016, meeting monthly for approximately 1 hour. Initial referral criteria were as per NICE guidance. Presence of 1 consultant Urogynaecologist and 1 further consultant (Urology or Gynaecology) was required for quoracy.

A study period of thirteen months was chosen (June 2017 – June 2018), during which time 12 MDT meetings occurred. Comprehensive minutes of the meetings were examined and patient notes reviewed where further information was required. Information collected included members attending the meeting, number of patients discussed and reasons for referral, as well as changes to the original management plan. Other matters discussed were also noted.

RESULTS

Average number of attendees was 7, with a specialist Urogynaecologist in attendance for all meetings. The Urology consultant attended 92% of meetings, a general gynaecologist 67% of meetings. Urology nurse consultant and Urogynaecoology specialist nurse both attended 83% respectively. Physiotherapist attended 67% of meetings. Urogynaecology trainee attended 50% of meetings.

The mean number of patients discussed was 9.5 (range 4-17), with an average age of 55 years. Gynaecology & Urology referred 46% and 43% of patients respectively, with the remaining 11% referred from physiotherapy. 63% of patients were referred for discussion of a primary problem (no previous invasive treatment for urogynaecological condition).

81% of patients discussed had urinary incontinence symptoms (mixed 41%, stress urinary incontinence 16%, urge incontinence 24%). Other reasons for MDT referral included prolapse (6%), surgical complications (5%) and other (8%).

The majority of referrals were to discuss invasive treatment for urinary incontinence (57%), mostly urge incontinence (37%). 10% of referrals were for clinical complexity & 3% with mesh complications.

MDT discussion led to a change in management plan in 31% of cases, agreeing with initial management in 67%. 2% were classed as "other", requiring further information before a decision could be made, or input of a clinician not present at that meeting.

Other matters could also be included on the agenda where the input of the MDT was required or to inform of upcoming projects– these included discussion and approval of new guidelines, audit and research projects.

INTERPRETATION OF RESULTS

MDT referral was for urinary incontinence symptoms in 81% of cases, the majority of these being mixed incontinence. Prolapse represented only a small number of referrals. 57% of cases were referred to plan invasive procedures for urinary incontinence. This is in keeping with NICE guidance requiring MDT discussion prior to such procedures.

In 67% of cases discussed, MDT consensus agreed with the proposed management plan. Management plan was changed in 31% of cases, demonstrating similar rates to that found by Gopinath et al.

For the cases where management plan was changed, 34% required additional investigations and 32% had care transferred to another colleague, the majority of these were to urogynaecology for management of prolapse symptoms alongside the urinary symptoms which had been their original complaint. 26% had modification to the surgical procedure initially planned, a figure double of that found by Gopinath et al. 8% of MDT discussions led to a tertiary referral.

Overall 3% (n=4) of patients discussed were referred on to tertiary services; 2 with mesh complications requiring specialist input, 1 for treatment options not available locally, 1 for discussion at the tertiary pelvic floor MDT due to concurrent faecal incontinence.

CONCLUSIONS

Meetings were well attended, with referrals and input from all specialties involved. High concurrence rates for management decisions could be explained by need for discussion prior to routine surgical procedures for urinary incontinence. Tertiary referral was required in only a small number of patients. Where management plans were changed by discussion at the MDT, this led to an alteration in the planned surgical intervention for the patient in a quarter of patients, highlighting the importance of MDT input in care. Data was not available at the time of this evaluation to establish time frames between date of patient review, timing to MDT discussion & intervention / implementation of management plan. This would be valuable in ensuring monthly MDTs do not delay care. To reduce potential delays, it is our current practice to discuss all management options with patients before referral to the MDT, making the patient aware that MDT review would be sought prior to agreeing a management plan, so patient preference is not excluded from MDT management decisions.

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106 - MICROABLATIVE FRACTIONAL CO2-LASER IN WOMEN WITH GENITOURINARY SYNDROME OF MENOPAUSE AND URINARY INCONTINENCE: 1-YEAR RESULTS

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INTRODUCTION AND AIM OF THE STUDY: Microablative Fractional CO_2-laser is a promising new therapeutic modality for postmenopausal women with genitourinary syndrome of menopause (GSM) and/or urinary incontinence (UI). Short-term outcomes provided evidence on the improvement of all GSM symptoms, as well as UI[1]. Long-term outcomes assessing either GSM symptoms[2] or mild SUI[3] indicated that the initial positive CO_2-laser results on symptoms improvement, remained unchanged. There is lack of long-term data of postmenopausal women with GSM and coexisting pure stress UI (SUI) or predominant SUI. The aim of this study is to assess the efficacy of CO_2-laser in postmenopausal women with GSM and coexisting SUI for a follow-up period of 1-year after the last laser application.
MATERIALS AND METHODS: Postmenopausal women with moderate to severe dyspareunia and pure SUI or predominant SUI, receiving CO_2-laser therapies, qualified for inclusion in this analysis. Primary outcome was considered the short-form of International Consultation on Incontinence Questionnaire (ICIQ-UI SF). Secondary outcomes included 10-cm Visual Analogue Scale (VAS) for measuring intensity of dyspareunia, dryness, itching/burning and Female Sexual Function Index (FSFI) for assessing parameters of sexual function (desire, arousal, orgasm, lubrication, satisfaction and pain). All questionnaires were completed by participants before initiation of therapies (baseline), 1-month and 12-months following last laser application. Comparisons performed between baseline and 1-month follow-up, baseline and 12-months follow-up, 1-month and 12-months follow-up.
RESULTS: Thirty postmenopausal women (mean age 56.9±4.7) fulfilled inclusion criteria. All women (100%) had 1-year follow-up and sexual dysfunction at baseline. Seven (23%), 13 (43%) and 10 (33%) women had mild, moderate and severe/very severe SUI, respectively. Eleven (37%) and 19 (63%) women had pure SUI and mixed UI with predominant SUI, respectively. Nine (30%) and 21 (70%) women had moderate and severe intensity of dyspareunia, respectively. Twenty-seven (90%) and 17 (57%) reported co-presence of dryness and itching/burning, respectively. ICIQ-UI SF score decreased significantly from baseline to 1-month ($p<.001$) and 12-months ($p<.001$) follow-up (Fig. 1). Dyspareunia, dryness and itching/burning decreased significantly from baseline to 1-month (all $p<.001$) and 12-months (all $p<.001$) follow-up (Fig. 2). FSFI improved significantly (all domains and Total score) from baseline to 1-month (all $p<.001$) and 12-months (all $p<.001$) follow-up (Fig. 3). Differences between 1 and 12-months follow-up were not detected for any of the outcomes.
INTERPRETATION OF RESULTS: Our results indicate that 1-year following CO_2 laser applications, alleviation of UI, dyspareunia, dryness, itching/burning as well as improvement of sexual function remains unchanged compared to 1-month follow-up.
CONCLUSION: CO_2-laser therapy is effective in postmenopausal women with moderate to severe dyspareunia and SUI, 1-year following the last laser-application.

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Fig. 1

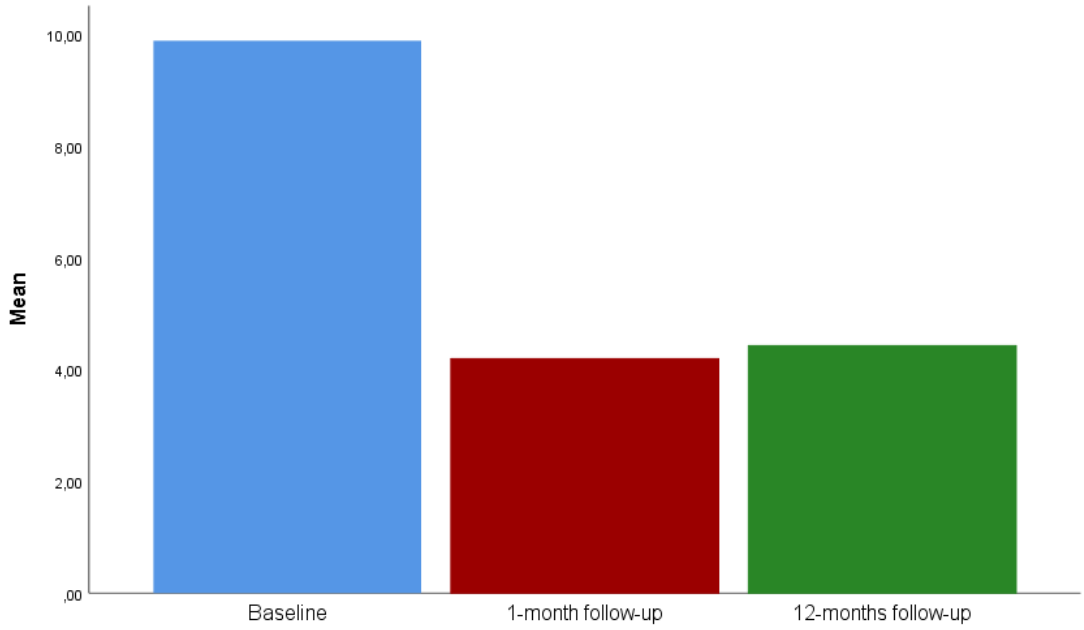

Fig.1 ICIQ-UI SF at baseline, 1 and 12-months follow-up.

Fig. 2

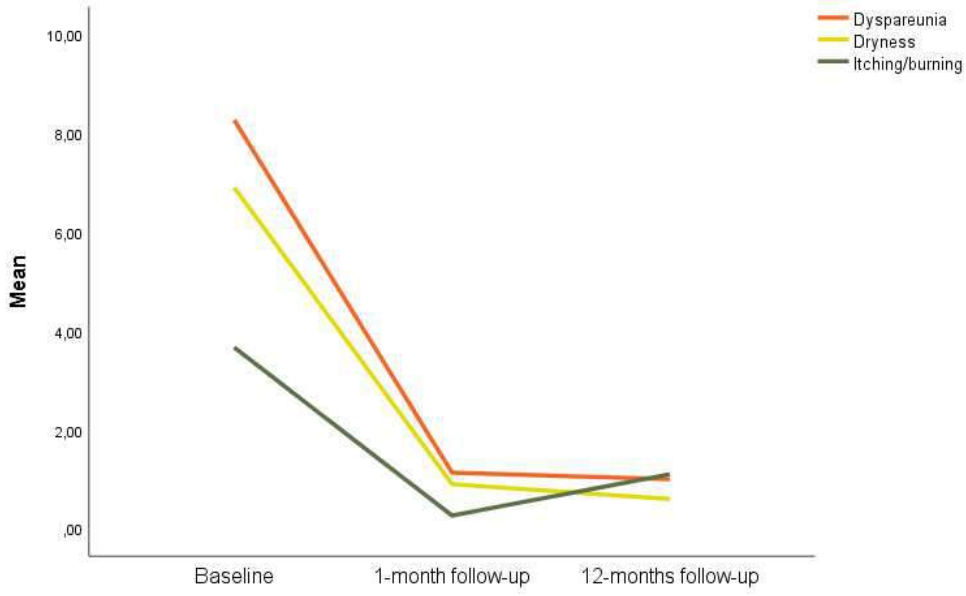

Fig.2 Dyspareunia, dryness and itching/burning at baseline, 1 and 12-months follow-up

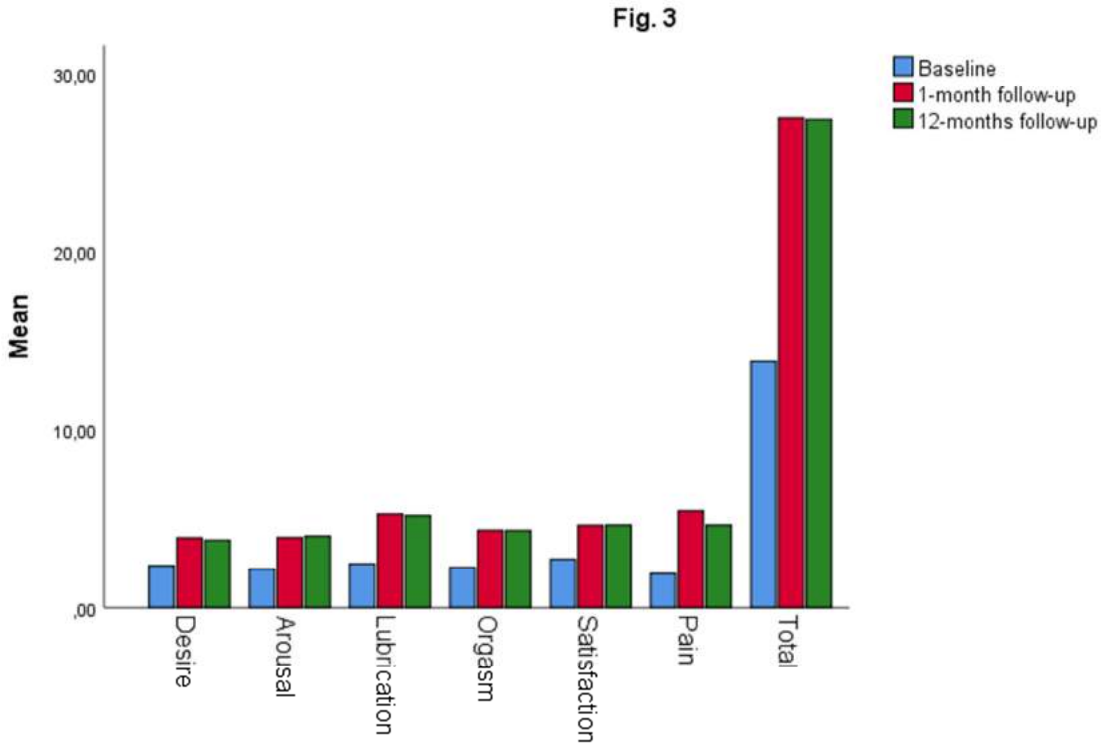

Fig. 3 All domains of FSFI and Total score at baseline, 1 and 12-months follow-up.

107 - OUTCOME OF LAPAROSCOPIC SACROCOLPOPEXY WITH ANTERIOR AND POSTERIOR MESH FOR FEMALE PELVIC ORGAN PROLAPSE. A PROSPECTIVE STUDY ON 360 CASES

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Geoffroy St Hilaire, Geoffroy St Hilaire, Paris, France (1)

INTRODUCTION AND AIM OF THE STUDY

Aassessment of the postoperative outcome following conventional laparoscopic sacrocolpopexy using anterior and posterior mesh in female pelvic organ prolapsed.

MATERIALS AND METHODS

This is a consecutive 10 years prospective observational study (2008-2018) in which 360 patients presented with at least a stage 2 apical prolapse, with an anterior or posterior vaginal wall prolapse, who underwent a conventional laparoscopic sacrocolpopexy and sacrohysteropexy. Two large pore size (≥ 1mm) heavyweight (19g/m^2) monofilament of polypropylene prostheses (Coloplat Group, Restaurelle Implant) were exclusively used for this technique. The prostheses were fixed on the posterior and anterior face of the vagina with absorbable sutures (Vicryl 2-0) and the sacrum with permanent sutures (Mersuture 0). Pre- and post-operative data referring to international pelvic organ prolapse quantitation classification (POP-Q), scores of quality of life and sexuality (French equivalent of the Pelvic Floor Distress Inventory (PFDI), Pelvic Floor Impact Questionnaire (PFIQ) and Pelvic organ prolapse-urinary Incontinence-Sexual Questionnaire (PISQ-12)) were compared. The patients were contacted and completed postal questionnaires more than one year after surgery and had a follow up in our uro-gynaecology department.

RESULTS

With a mean follow-up of 64.7 months, 354 patients were accessible for evaluation. For these patients, the anatomical success rates (Stage 0 or 1) on the apical, anterior or posterior compartments were 97%, 89% and 98%, respectively. On the functional level, all the scores of quality of life and sexuality were improved.

INTERPRETATION OF RESULTS

The study shows the effectiveness of laparoscopic sacrocolpopexy for the apical and anterior compartment repair when the cystocele is moderate and limited to a median defect. In our experience, laparoscopic sacrocolpopexy with heavyweight polypropylene prosthesis is an effective treatment of the posterior defect.

CONCLUSIONS

This study confirms the effectiveness of laparoscopic sacrocolpopexy for the repair of the all compartment prolapse.

108 - PREVENTIVE MUSCLE PELVIC TRAINING IN OASIS: OUTCOMES AT 12-MONTHS FOLLOW-UP.

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INTRODUCTION AND AIM OF THE STUDY

Obstetric Anal Sphincter Injuries (OASIs) are the most severe form of perineal trauma occurring during childbirth, and can have a dramatic impact on a women's quality of life (1) due to potential anal incontinence in future life. The incidence reported internationally varies from 0.1%-0.25% in Israel to 10.2% in USA. In recent years there has been an increasing trend in the incidence of OASIs globally, but it doesn't necessarily indicate poorer quality of care. It probably indicates the better recognition or a change in obstetrical practice. A systematic review has demonstrated a wide variation in the prevalence of anal incontinence in the short term (16 % to 36.7 %), which can get worse over time, causing a significant impact on quality of life. The aim of this study is to evaluate the efficacy of our local protocol of management of the OASIs and the role of early pelvic muscle training to prevent pelvic floor dysfunctions in the short term (12months).

MATERIALS AND METHODS

This prospective study enrolled a population of women that delivered in a single centre between January 1st 2017 and December 31st 2017. We considered only women with a diagnosis of OASIs after delivery. Exclusion criteria: previous III-IV perineal tears, previous instrumental delivery. Data of consecutive women were collected in an approved database that included demographic (maternal age, parity, gestational age, race) and obstetrical variables (labour induction, analgesia, duration of second stage, mode of delivery, position at delivery, episiotomy, perineal trauma according to Sultan's classification, shoulder dystocia, birth weight). The surgical repair was similar in all cases performing an "end to end" technique suture with 2.0/3.0 monofilament, according to specific guidelines (2). Our post partum management included the use of prophylactic broad-spectrum antibiotics, postoperative laxative and analgesic drugs. During the hospitalization, each patient was instructed for early muscle pelvic training by a trained single midwife who informed all patients and helped them to be conscious of their specific problem. After hospital discharge, all patients performed a 10-session rehabilitation program where postural and kinesiotherapic exercises were performed. We have evaluated all women by a call at short term (mean follow-up 8.7months) asking them about pelvic floor dysfunctions using the Wexner and ICIQ-SF questionnaires. We have compared this population with a control's group with minor tears. Statistical significance was assumed when p value< 0.05. Statistical analysis was performed with Graph-Pad version 6 (Graph.Pad Software, San Diego CA).

RESULTS

During the study period, 1171 women delivered in our hospital. Twenty six (2.2%) sustained an OASIs tears (table 1). All of them were therefore directed to an early pelvic muscle training therapy. In this specific group, 5 (19.2%) patients had an instrumental delivery. 21 (80.1%) were nulliparous and 17 (65.4%) were Caucasian patients, 16 (61.5%) were IIIA degree, according to Sultan's classification [1] Baseline patients' characteristics and obstetrics variables are shown in Table 2. Univariate analysis showed a statistically significant difference between the two groups in terms of nulliparity, instrumental delivery and fetal position at delivery (p value=0.0006, p value=0.02, p value=0.01, respectively). Analyzing the answers to the administered questionnaires, only 3.8% of OASIs population referred urinary incontinence when compared to the 23% of the Control's group (p=0.3), but no one in both populations reported anal incontinence.

INTERPRETATION OF RESULTS

Our final analysis confirmed primiparity, occipitous persistent position, and instrumental delivery to be risk factors for OASIs (3). In our study group no one complained of anal incontinence at 12 months post partum. This is probably due to an adequate intrapartum diagnosis and proper surgical repair, but also to an early rehabilitation protocol. Conversely, in the OASIs group, we observed a lower rate of urinary incontinence compared with the control group. Indeed, women who sustained lower grade perineal tears have not receive an early pelvic muscle training, due to a lack of potential risk factors. Limitations of the present study include the relative short term follow-up period.

CONCLUSIONS

In our study population, women that followed a preventive muscle pelvic training, did not complained faecal incontinence at 12 months post-partum despite higher grade perineal tears. Anyway an early proper pelvic and postural rehabilitation confirmed to have an important preventing role for urinary and faecal incontinence even in women that do not show clear risk factors.

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III-IV	**26**	2,20%
3A	16	62%
3B	6	23%
3C	3	8%
4	1	4%

Tab.1

			control's group		**p value**
population's characteristics	**range/n°**	mean/%	**range/n°**	media/%	
age	20-42	30	26,44	32,6	ns
nulliparous	21	80,1	8	30,8	0,0006
ethnicity					
asian	5	19,2	2	7,7	0,2
white	17	65,4	23	88,5	
black	4	15,38	1	3,8	0,15
obstetrics data					
analgesia	2	8%	3	11,5	1
GE	38,4-41,4	40	37-41,4	39,92	ns
induction of labor	6	23,07	4	15,4	0,5
oxytocin augmentation	10	3,84	7	26,9	0,4
instrumental delivery	5	19%	0		0,02
maternal supine position	19	73	21	80,8	ns
episiotomy	6	23%	0		0,01
birth weight	2780-4360	3505	2900-4110	3462	ns
fetal position					
OIDA	13	50	10	38,5	
OIDP	5	19,2	0		0,02
OISA	8	30,8	16	61,53	0,6
II time min	20-130	83,8		77,12	ns
ICIQ-SF	3,80%	6,5	23%	3,6	0,2
WEXNERscore	7,7	1	0	0	ns
WEXNERscore2	0	0	0	0	ns

109 - OBJECTIVE AND SUBJECTIVE OUTCOME OF TRANSVAGINAL REPAIR USING THE ELEVATE® MESH FOR THE TREATMENT OF RECURRENT PELVIC ORGAN PROLAPSE

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Cork University Maternity Hospital, EUGA, Cork, Ireland (1)

INTRODUCTION AND AIM OF THE STUDY

The goals of mesh-augmented surgical reconstruction include restoration of normal anatomy with improvement in bladder, bowel, and sexual function, ultimately leading to improvement in quality of women's lives.

The aim of our study is to evaluate the anatomical outcome, and early and late postoperative complications of both the Elevate Anterior/Apical and Elevate Posterior/Apical vaginal mesh in the repair of pelvic organ prolapse (POP), using the Clavien-Dindo classification system.

MATERIALS AND METHODS

This is a retrospective study, looking at 135 patients, Each undergone a single-incision transvaginal polypropylene mesh implantation in the sacrospinous ligaments bilaterally. Done by s single surgeon in two tertiary urogynecology referral hospitals. Preoperative assessment included a pelvic examination using the Baden Walker Halfway system. Patients were then interviewed postoperatively at 6 weeks and 6 months intervals, to assess their quality of life, change in symptoms, and a pelvic exam was done to assess POP. We also looked at intraoperative and postoperative complications. These complications were assessed using the Clavien-Dindo classification system.

RESULTS

Table 1 Pre vs Post-Operative Clinical Symptoms

	Clinical Symptoms	Pre-Operative	Post-Operative (n=122)	p-value
Urinary symptoms	*Frequency (≥8 times per day)*	35 (28.7%)	17 (13.9%)	<0.01
	Nocturia (≥1 time per night)	88 (72.1%)	76 (62.3%)	0.1
	Urgency	49 (40.2%)	30 (24.6%)	<0.01
	Abnormal Flow	29 (23.7%)	3(2.4%)	<0.01
	Incomplete Emptying	40 (32.7%)	3 (2.4%)	<0.01
	Recurrent Cystitis	16 (13.1%)	11 (9%)	0.3
Bowel symptoms	*Constipation*	37 (30.3%)	4 (3.3%)	<0.01
	Defecation Difficulty	37 (30.3%)	1 (0.8%)	<0.01
Sensory symptoms	*Pressure Symptoms*	102 (83.6%)	1 (0.8%)	<0.01
Sexual symptoms	*Dyspareunia*	3 (2.5%)	3 (2.5%)	1.0

Table 2. Post-Operative Complications

Table 2. Baden-Walker Stages for the Anterior and Posterior Repair Groups intraoperatively, at 6 weeks and at 6 months

	Anterior Elevate group			Posterior Elevate group		
Stage	Intraoperative	6 weeks	6 months	Intraoperative	6 weeks	6 months
Stage 0	0	45 (83.3%)	42 (82.4%)	0	64 (94.1%)	58 (92.1%)
Stage I	0	6 (11.1%)	7 (13.7%)	0	3 (4.4%)	3 (4.8%)
Stage II	4 (7.4%)	2 (3.7%)	2 (3.9%)	11 (16.2%)	1 (1.5%)	1 (1.6%)
Stage III	47 (87%)	1 (1.9%)	0	44 (64.7%)	0	1 (1.6%)
Stage IV	3 (5.6%)	0	0	13 (19.1%)	0	0

	Total (n=122)
Post-Operative Complications	
Recurrence	*3 (2.5%)*

Hematoma	*5 (4.1%)*
Mesh Erosion	*19 (15.6%)*
Conservative Management	*10 (8.2%)*
Surgical Management	*9 (7.4%)*
Urinary Retention	*1 (0.8%)*
UTI	*0*
De novo SUI	*2 (1.6%)*
Detrusor Overactivity	*8 (6.6%)*
Fistula	*1 (0.8%)*

Clavien-Dindo Classification	
Class I	*0 (0%)*
Class II	*9 (7.4%)*
Class IIIa	*15 (12.3%)*
Class IIIb	*10 (8.2%)*
Class IVa	*0 (0%)*
Class IVb	*0 (0%)*
Class V	*0 (0%)*

Post-operative assessment shows that the majority of patients have reduced prolapse to stages 0 or 1 in the post-operative period, in both the anterior and posterior Elevate groups

INTERPRETATION OF RESULTS

We noticed a significant reduction in the proportion of patients experiencing frequency, urgency, stress urinary incontinence, constipation defecatory difficulty and pressure problems. We also observed a significant increase of patients reporting normal urinary flow and complete bladder emptying. There was also a reduction in patients complaining of nocturia and recurrent cystitis, however this was not statistically significant. There was no change in the proportion of patients with dyspareunia however this symptom resolved for 2 of the original 3 cases and was noted a new problem for 2 other patients post-operatively. Only 7.4% of the patients needed excision of exposed mesh, whereas 8.2% were managed conservatively with either expectant management or vaginal estrogens. The incidence of mesh erosion in our study is comparable to that in other studies [1,2]. We noticed that all patients who developed haematoma went on to develop mesh erosion, and the one patient who developed a fistula also had a haematoma post-op.

CONCLUSIONS

POP surgery utilising mesh is usually performed in more complicated cases, often having had previous pelvic floor repair using native tissue , or previous hysterectomy, and often requiring concomitant continence surgery and surgery in multiple compartments. And yet still demonstrating high success rates. Factors increasing success and reducing complication rates include proper surgical training, careful patient selection, and having the surgical procedure done in an tertiary setting that can manage complications after a multidisciplinary team discussion.

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110 - CURRENT PRACTICE REGARDING PRE-OPERATIVE MANAGEMENT OF URINALYSIS RESULTS IN WALES

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INTRODUCTION AND AIM OF THE STUDY

The strongest risk factor for postoperative urinary tract infection (UTI) has been reported to be pre-operative recurrent UTI (Nygaard et al., 2011). This is the reason behind urinalysis being part of the pre-operative checklist completed on the day of gynaecological surgery. Traditionally a suspected UTI would mean postponing surgery whilst treating the UTI. It is known that the sensitivity of nitrite test and leukocyte-esterase (LE) test when used alone is low and cannot rule out UTI in most patients (Mambatta et al. 2015). Urine culture is therefore suggested for all patients with suspected UTI (John et al. 2006). However, there are no clear guidelines regarding the pre-operative management of urinalysis results on the day of gynaecological surgery.

Aim: To evaluate current practice amongst Consultant Gynaecologists in Wales regarding pre-operative management of urine dipstick results and to evaluate the need for guidelines.

MATERIALS AND METHODS

A survey was created using the online tool SurveyMonkey® and emailed out to all 172 consultant gynaecologists in Wales. Questions were based on NICE clinical guideline 171 (2015) regarding the management of urinary incontinence in women. Candidates were asked what their sub-speciality was and whether or not they check their patient's urine dipstick result prior to major surgery. Eighteen scenarios were given based on: a. urinalysis result, b. whether or not the patient was symptomatic of a UTI, and c. the type of surgery (vaginal, abdominal and laparoscopic surgery). The candidates had the choice of three management options for each scenario: 1. Continue surgery without a course of antibiotics, 2. Continue surgery with a course of antibiotics, and 3. Cancel surgery.

Results were collated and analysed using statistical analysis software (SAS/STAT) programme. Univariate analysis was done using paired t-tests for differences between management options of urine dipstick results.

RESULTS

The response rate was 25% (n=43). Seven respondents never checked their patient's urinalysis prior to major surgery. Of the remaining 37 respondents, 70% always check their patient's urinalysis and 30% sometimes check.

Overall, 37.1% cancelled surgery when urinalysis was positive for either nitrite or LE. A significantly larger proportion cancelled surgery when symptomatic for UTI ($p<0.001$), and when nitrite and LE positive compared to LE only positive ($p<0.05$). When comparing different types of surgery a higher proportion of respondents continued with positive urinalysis in laparoscopic surgery (71.8%) compared to vaginal (56.6%) or major abdominal surgery (61.4%) ($p>0.05$).

Multiple regression analysis showed that whether the patient was symptomatic of an UTI was significantly more influential on the decision to cancel surgery compared to the urinalysis result followed by the type of surgery (-545 vs. -504 vs. -496, $p<0.001$).

INTERPRETATION OF RESULTS

Urinalysis is traditionally part of the gynaecological pre-operative checklist being performed in most hospitals. This survey demonstrates how consultant gynaecologists use urinalysis results in decision-making regarding major gynaecological surgery. In total, 32% of respondents cancelled gynaecological surgery as a result of a positive urinalysis result. As cancellations have major implications for the patient, the National Health Service and society in general, these decisions should logically be based on a diagnostically accurate test. The diagnostic accuracy of urinalysis for diagnosing a UTI is known to be limited (Mambatta et al., 2015).

We propose that urinalysis could be used as a screening test and then if positive perform urine microscopy before making the decision to postpone surgery. This survey also demonstrates that most weight on decision-making is based on the presence of UTI symptoms in the patient. Therefore, urine testing could potentially only be performed in patients symptomatic of UTI.

Symptoms of Urinary Tract Infection	Urinalysis result	Type of Surgery	Management Options (%)		
			Continue surgery without Antibiotics	Continue surgery with Antibiotics	Cancel surgery
Symptomatic	Leukocyte only Positive	Vaginal	9.1	39.39	51.51
		Laparoscopic	16.66	50	33.33

		Abdominal	11.11	41.67	47.22
	Nitrite only Positive	Vaginal	0	33.33	66.66
		Laparoscopic	0	52.78	47.22
		Abdominal	0	36.11	63.89
	Leukocyte and Nitrite Positive	Vaginal	0	24.25	75.75
		Laparoscopic	0	41.67	58.33
		Abdominal	0	25	75
Asymptomatic	Leukocyte only Positive	Vaginal	36.36	54.55	9.09
		Laparoscopic	44.44	52.78	2.78
		Abdominal	38.89	58.33	2.78
	Nitrite only Positive	Vaginal	9.09	66.67	24.24
		Laparoscopic	22.22	61.11	16.67
		Abdominal	13.89	58.33	27.78
	Leukocyte ad Nitrite Positive	Vaginal	3.03	63.64	33.33
		Laparoscopic	13.88	75	11.12
		Abdominal	5.56	69.44	25

Table 1: Summarises the results for the 18 scenarios according to whether the patient is symptomatic of a UTI, urinalysis result and type of surgery. Management options are shown in percentages (n=37).

CONCLUSIONS

This survey provides evidence that operations are potentially being cancelled unnecessarily based on urinalysis results. There should be consideration towards the use of microscopy and culture as part of the preoperative tests. Up to date guidelines on the role of pre-operative urinalysis and urine microscopy would help bring about this change in practice.

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111 - STRESS URINARY INCONTINENCE SURGERY WITH MINI SLING SWING SYSTEM: OUR OFFICE EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is the most common type of female urinary incontinence (UI). In Portugal, SUI affects about 30% of women over 40 years of age. Surgery plays a preponderant role in SUI treatment. Surgical treatment of SUI has evolved in recent decades towards minimally invasive approaches. After Ulmesten et al. publication on the retropubic urethral sling without tension (TVT), the mid-urethral slings (retropubic, transobturator and single incision sling or minislings) have become the most common surgical procedures for female SUI correction. The single incision sling or Mini-sling can be performed under local anesthesia and is associated with fewer potential complications. These advantages supported its "outpatient surgery" implementation, which has been practiced in our Hospital since 2013.

The aim of this publication is to evaluate the efficacy, short-term and long-term complications and satisfaction of our office setting experience with Swing® system for the treatment of female IU.

MATERIALS AND METHODS

We performed a retrospective study of surgery with mini-sling Swing® system. From January 2016 to december 2017, 60 women with UI underwent Swing® system surgery. 55% (n=33) of the patients suffered from mixed urinary incontinence (MUI) and 45% (n=27) from SUI. The average age was 53 years-old. We analyzed data on the clinical and urodynamic characteristics of the patients, intra and postoperative complications (early and late), and short-term (2 months) and long-term follow-up (1 year after surgery). During follow-up, the patient's clinical history, the degree of satisfaction after the surgery and physical examination with a stress test were evaluated. Cure was objectified with negative stress test with full bladder. All these procedures were performed in an office setting with local anesthesia (Marcaine), prophylactic antibiotherapy (Clindamycin 900ev) and with evaluation of the pain scale.

RESULTS

96% (n=58) of patients showed objective cure (56,3% with MUI and 43,7% with SUI) at 2 months and 1 year follow-up. One patient had only improvement but not cure with surgical correction. Surgical failure occurred in 1 case due to tape exposure, this patient was reintervened using Burch's procedure. The Surgical Success Rate (cure + improvement) was 98%. The pain self-assessed by patients during surgery was on average 2 (minimum 1 and maximum 6) on a scale of 0 to 10. There were no intraoperative complications. The early postoperative complications were limited to 1 case of pain on the inner side of the thigh and 3 cases of cystitis. Late postoperative complications included 1 case of tape exposure in the vagina, already mentioned above, and 3 cases of unilateral inguinal pain that resolved spontaneously or with oral analgesics. There was also 1 case of worsening urgency incontinence symptoms in a woman with MUI 1 year after surgery, that required treatment with anticholinergics. The satisfaction rate was 96% and most patients were very satisfied with the end result of the surgery.

CONCLUSIONS

The mini-sling Swing® system is an excellent anti-incontinence procedure. Its greatest advantage lies in the possibility of performing the surgery under local anesthesia, thereby allowing the execution of the stress test and to test and immediate adjustment of the sling's tension according to the woman's needs which contributes to a high success rate. Simplified system tuning allows minimizing trauma and bleeding, thus achieving a low number of complications. Also, as demonstrated by our results, the surgery is, in most cases, performed with minimal discomfort, which reinforces the possibility of being performed as an "outpatient surgery". The results presented in our series are in agreement with the literature. However, the findings of this study should be further confirmed by well-designed prospective studies with a larger patient series.

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112 - ARE WE PERFORMING EPISIOTOMIES CORRECTLY? A STUDY TO EVALUATE FRENCH TECHNIQUE IN A HIGH-RISK MATERNITY UNIT.

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INTRODUCTION
The aim of this study was to evaluate episiotomy technique, in particular suture angles, and any correlation between suture angle and severe perineal tearing.
MATERIAL AND METHODS
An observational questionnaire-based study was conducted between 01 August 2015 and 30 April 2016 among accoucheurs performing episiotomies in a French maternity unit with facilities for high-risk pregnancies. For each patient included, accoucheurs were asked to measure the episiotomy suture angle, and to record the angle at which they thought they had cut, the length of the episiotomy, its distance from the anus, and whether the woman sustained a sphincter injury.
RESULTS
The centre's episiotomy rate during the study period was 15%. We analysed the characteristics of episiotomies performed on 88 women (68 by doctors and 20 by midwives). Only 43% of suture angles were between 45° and 60° (45.6% of those performed by doctors vs 38.1% by midwives, p=0.8623), whereas 91% of accoucheurs thought they had cut within the correct range. Doctors made longer incisions than midwives (4 cm[4.2–5.0] vs 3cm [2.5–3.5], p=0.0006). Only 40.5% of accoucheurs correctly estimated the incision angle. Twelve (13.64%) of the 88 women sustained a third-degree perineal tear. The risk of sphincter injury was higher with suture angles <45° (odds ratio 5.46 [1.11–26.75], p=0.037). After multivariate analysis, this result was no longer significant (p=0.079).
CONCLUSION
It appears that many accoucheurs have difficulty estimating episiotomy incision angles correctly and that education and training in this domain requires improvement.

113 - STRESS URINARY INCONTINENCE IN PAROUS WOMEN PRACTICING COMPETITIVE SPORTS COMPARED TO GENERAL POPULATION

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INTRODUCTION AND AIM OF THE STUDY

The aim of this cross-sectional study was to compare the prevalence of urinary symptoms in female Catchball players to the general population represented by medical staff.

MATERIALS AND METHODS

We conducted a survey utilizing UDI-6 questionnaire in woman playing Catchball in an official Israeli competitive league for at least one year and training twice a week or more. The control group consisted of women practicing medicine (physicians and nurses).

RESULTS

The study group consisted of 315 Catchball players and the control group consisted 105 medical staff practitioners. Both groups were similar in most of the demographic characteristics (Table 1). Urinary symptoms represented by UDI-6 scores were higher in women in the Catchball group. Fequency and urgency symptoms were also common in women playing Catchball. Stress urinary incontinence (SUI) was insignificant between the groups (44.7% in the Catchball group and 35.2% in the medical staff group, p = 0.114). However, severe SUI was more common in Catchball players (Table 2). In a multivariable logistic regression analysis, playing Catchball was not independently associated with SUI even after adjustment for age, BMI, vaginal deliveries, maximal birth weight and additional sport activity

INTERPRETATION OF RESULTS

The rates of urinary symptoms were higher than anticipated in both groups, especially in Catchball players. SUI was common in both groups. However, severe SUI was more common in Catchball players, probably due to experiencing it more often while practicing since it involves jumping that can trigger the incontinence.

CONCLUSIONS

The fact that USI is common in both groups implies it shouldn't be a barrier for women to avoid physical activity, and instead should trigger an awareness campaign in order help improve woman's quality of life and seek treatment.

Table 1. Demographic characteristics

	Catch-ball Players (n = 315)	Medical Staff (n = 105)	*p*
Age	42.6 ± 5.9	41.0 ± 9.0	***0.028***
Weight (Kg)	68.8 ± 11.8	66.9 ± 13.4	*0.110*
Height (cm)	164.5 ± 6.1	168.9 ± 7.0	***<0.001***
BMI	24.1 ± 3.7	24.7 ± 4.7	*0.401*
Parity	2.6 ± 1.0	2.0 ± 1.3	***<0.001***
VD	77/302 (74.5%)	69/88 (78.4%)	*0.543*
Maximal Birth Weight (gr)	3503.4 ± 535.3	3432.6 ± 421.3	*0.082*
Additional Sport activity	111 (35.2%)	35 (33.3)	*0.813*

Table 2. Urinary distress Inventory (UDI) - 6 questionnaire

	Catch-ball Players (n = 315)	Medical Staff (n = 105)	*p*
UDI - 6	18.4 ± 21.7	11.6 ± 15.4	***0.008***
Q1 – Frequency*	88 (27.9%)	18 (17.1%)	***0.038***
Q2 – Urgency*	74 (23.8%)	13 (12.4%)	***0.019***
Q3 – Stress*	139 (44.7%)	37 (35.2%)	*0.114*
Q3 – Stress[#]	87 (27.6%)	18 (17.1%)	***0.044***
Q4 – Small*	98 (31.5%)	22 (21.0%)	*0.052*
Q5 – Difficulty*	21 (6.8%)	6 (5.7%)	*0.419*
Q6 – Pain/Discomfort	38 (12.2%)	15 (14.3%)	*0.704*

*A positive answer of at least 2 (“somewhat bothering”) was used to define clinically significant symptom.

[#]A positive answer of at least 3 (“moderately bothering”) was used to define clinically significant symptom.

Q1 – Do you usually experience frequent urination?

Q2 - Do you usually experience urine leakage associated with a feeling of urgency?
Q3 - Do you usually experience urine leakage related to coughing, sneezing or laughing?
Q4 - Do you usually experience small amounts of urine leakage?
Q5 - Do you usually experience difficulty emptying your bladder?
Q6 - Do you usually experience pain or discomfort in the lower abdomen or genital region?

114 - SHORT-TERM QUALITY OF LIFE OUTCOME FOR CUBE PESSARY IN WOMEN WHO SUFFER FROM PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common and distressing problem. Pessary is a conservative treatment alternative for POP. Cube pessary is self-therapy option for women who suffer from POP and prefer nonsurgical treatment. To determine the effect of cube pessary on incontinence symptoms and related quality of life in women with symptomatic pelvic organ prolapse (POP).

MATERIALS AND METHODS

30 women with POP were conducted in conservative treatment with cube pessary (Arabin™ GmbH & Co, Witten, Germany). The differences in UDI-6 and IIQ-7 scores between before and after pessary use were assessed for normal distribution using Shapiro-Wilk's test. Differential in both scores were found to be normally distributed (p=0.858 for UDI-6 and p=0.617 for IIQ-7). Then a paired samples t test was used to determine whether there was a statistically significant mean difference between the scores

RESULTS

The mean age 62.30±9.28. Pretreatment UDI-6 and IIQ-7 scores are 37.45±23.38 and 34.22±26.35 respectively. 6th week visit UDI-6 and IIQ-7 scores are 27.78±23.57 and 24.87±29.19 respectively.

INTERPRETATION OF RESULTS

Improvement of both UDI-6 and IIQ-7 scores were shown to be statistically significant (p scores were 0.027, 0.030, respectively).

CONCLUSIONS

The ring pessary without support is an effective conservative treatment option for the women with advanced pelvic organ prolapse. Furthermore, it provides relief of symptoms related to incontinence.

115 - THE EFFECT OF MODE OF DELIVERY AT SUBSEQUENT BIRTH AFTER PREVIOUS OBSTETRIC ANAL SPHINCTER INJURY ON SYMPTOMS OF PELVIC FLOOR DYSFUNCTION

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INTRODUCTION AND AIM OF THE STUDY

Pregnancy and childbirth are known to cause symptoms of pelvic floor dysfunction (PFD), including anal incontinence (AI), urinary incontinence (UI), pelvic organ prolapse and sexual dysfunction, through exhibiting tension or trauma to the perineal muscles as well as pudendal neuropathy. Obstetric anal sphincter injuries (OASIS) are the leading cause for long-term female AI (OR 2.66; 95%CI, 1.77 – 3.9),[1] and the extent of associated morbidity correlates with the grade of tear.[2] The current recommendation is for women to have a caesarean section (CS) if they are symptomatic or have altered anorectal physiology following a previous OASI.[3] The aims of this study were to investigate the effect of initial OASI, subsequent pregnancy and delivery, and the mode of the subsequent delivery on symptoms of PFD.

MATERIALS AND METHODS

A 26-question, 72-item postal questionnaire comprising four validated and widely recognised questionnaires assessing symptoms of PFD: CCIS (Cleveland Clinic Incontinence Score), FIQLI (Fecal Incontinence Quality of Life Instrument), ICIQ-UI SF (International Consultant on Incontinence Modular Questionnaire – Urinary Incontinence Short Form) and PISQ-12 (Pelvic Organ Prolapse/ Urinary Incontinence Sexual Questionnaire). The cohort included women whom had sustained an OASI at primiparous, term, singleton, cephalic, vaginal birth between 2004 – 2015. Comparisons in questionnaire scores were made between those that had a further delivery with those whom did not. Women were subcategorised depending on the initial and subsequent mode of delivery (MOD). Questionnaire scores were analysed using the Mann-Whitney U test, with a significance of $p \leq 0.05$.

RESULTS

A total of 841 women were invited to take part (675 women with a history of OASI and 166 control with no perineal trauma after normal vaginal delivery (VD)); 32.7% showed initial interest in taking part, 176 completed questionnaires were returned. No difference was seen in ethnicity, maternal age or infant birthweight across the subcategories. Initial MOD did not affect the overall questionnaire score (normal VD (NVD) vs. operative VD (OVD), p=0.585), but sustaining an OASI did (control (C) vs. NVD+OVD, p=0.006, and more so in OVD; C vs. OVD, p=0.002) (see Table 1). OVD was also associated with worse CCIS scores (C vs. OVD, p=0.02). PISQ-12 scores were significantly worse in the OASI group regardless of MOD (C vs. NVD, p=0.037, C vs. OVD, p=0.001, C vs. NVD+OVD, p=0.034) – see Table 1. Having a subsequent delivery had no effect on questionnaire scores regardless of initial and subsequent MOD – see Table 2. Those that had a CS had significantly worse CCIS, FIQL and PISQ-12 scores in comparison to those that had a further VD – see Table 3.

INTERPRETATION OF RESULTS

Symptoms of PFD, namely AI and sexual function, after a single VD are the result of sphincter injury rather than the MOD. Sexual function and AI are potentiated by sustaining an OASI. In those having a further delivery, it was also the initial injury that determined the PFD rather than the subsequent pregnancy or the subsequent MOD. We were unable to determine whether or not CS is protective against worsening PFD symptoms as those subsequently delivering by CS were likely to have worse symptoms after the initial injury than those having a further VD.

CONCLUSIONS

This study has shown that it is the initial sphincter injury which determines the long term symptoms of PFD, therefore highlighting the need for better awareness and implementation measures to prevent OASIS from being sustained.

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Table 1: The effect of sustaining an OASI on symptoms of PFD

	Control vs. NVD	Control vs. OVD	Control vs. NVD+OVD
Overall Score	p=0.111	**p=0.002**	**p=0.006**
CCIS	p=0.752	**p=0.020**	p=0.108
FIQL	p=0.249	p=0.098	p=0.114
ICIQ-SF	p=0.2	p=0.269	p=0.188
PISQ-12	**p=0.037**	**p=0.001**	**p=0.002**

Mann-Whitney U Test was used for all, **p≤0.05** (p values in bold type met statistical significance)

Table 2: The effect of subsequent delivery on symptoms of PFD

	NVD vs. NVD-NVD	NVD vs. NVD-CS	OVD vs. OVD-CS	OVD vs. OVD-CS
Overall Score	p=0.564	p=0.186	p=0.185	p=0.411
CCIS	p=0.418	p=0.208	p=0.072	p=0.212
FIQL	p=0.055	p=0.592	p=0.230	p=0.096
ICIQ-SF	p=0.645	p=0.633	p=0.724	p=0.716
PISQ-12	p=0.309	p=0.083	p=0.081	p=0.957

Mann-Whitney U Test was used for all, **p≤0.05** (p values in bold type met statistical significance)

Table 3: The effect of the mode of subsequent delivery on symptoms of PFD

	NVD-NVD vs. NVD-CS	OVD-NVD vs. OVD-CS	(NVD-NVD + OVD-NVD) vs. (NVD-CS + OVD-CS)
Overall Score	**p=0.018**	**p=0.036**	**p=0.002**
CCIS	p=0.309	**p=0.010**	**p=0.004**
FIQL	**p=0.036**	**p=0.018**	**p<0.001**
ICIQ-SF	p=0.973	p=0.666	p=0.544
PISQ-12	**p=0.004**	p=0.089	**p=0.001**

Mann-Whitney U Test was used for all, **p≤0.05** (p values in bold type met statistical significance)

116 - TRANSVAGINAL SACROSPINOUS LIGAMENT FIXATION FOR VAULT PROLAPSE: SURGICAL OUTCOMES AND QUALITY OF LIFE AT A MEAN 5-YEARS FOLLOW-UP.

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INTRODUCTION AND AIM OF THE STUDY

Among the different techniques described for the surgical repair of vaginal vault prolapse (VVP), transvaginal sacrospinous ligament fixation (SSLF) has shown success rates for the apical segment ranging between 90 and 96% [1]. Anterior compartment has been reported to be the most common site for prolapse recurrence after SSLF, probably due to the posterior deflection of the vaginal axis. Although infrequent, serious complications associated with SSLF include buttock pain and sacral/pudendal neurovascular injury. The success of SSLF seems to be dependent on the length of follow-up, with rates of surgical failure increasing over time but without a correspondent worsening in prolapse symptom scores [2]. The purpose of our study was to evaluate anatomical and subjective outcomes of SSLF for primary surgical repair of VVP at long-term follow-up.

MATERIALS AND METHODS

Data of patients who underwent unilateral SSLF for post-hysterectomy VVP (point C $\geq$ 0) between January 2012 and December 2014 at our institution were retrospectively analyzed. Data relating to surgery and hospital stay, as well as complications, were recorded too. Patients with a history of previous surgery for cuff prolapse were excluded. Additional surgical procedures such as anterior, posterior and/or enterocele repair were performed when indicated. Two experienced vaginal surgeons carried out all surgeries. Before surgical approach each patient was assessed with regards to clinical and surgical history, pelvic floor symptoms, physical examination according to the Pelvic Organ Prolapse Quantification scoring system. All patients completed a prolapse quality of life validated questionnaire (P-QOL) preoperatively and at 12-month follow-up in order to evaluate the impact of pelvic organ prolapse and the presence of urinary, sexual and bowel disorders. Patients were examined 1 and 6 months after surgery and then annually. Anatomical recurrence was defined as stage > I descent of any vaginal compartment according to the POP-Q system. In May 2018 all patients subjected to SSLF, in the above mentioned period, were contacted and asked to repeat physical examination and to complete P-QOL in order to evaluate any anatomical or subjective change at a minimum of 40-months follow-up. Statistical analysis was performed using GraphPad version 6 (GraphPad Software, San Diego CA) and StataCorp 2017.Stata Statistical Software Release 15. College Station, TX: StataCorp LLC.. Statistical significance was set at p = value <0.05.

RESULTS

A total of 53 women underwent right unilateral SSLF in the study period. Demographic characteristics are shown in table 1. Surgical procedures performed and operative data are shown in table 2. Complications rate was 9,4% and urinary retention was the most frequent (5,6%), occurring in those subjects who underwent an anterior repair in addition to SSLF and lasting less than 1 week. Only one patient needed self-intermittent catheterization for up to one month. Mean score for buttock pain in the first post-operative day was 4.9 (SD=1.8) and only one patient complained of severe and persistent buttock pain that resolved spontaneously after thirty days from surgery. Forty-five women were available for long-term follow-up (drop-out rate 15,1%). Mean follow-up time was 61,8 (SD=10,4) months. As regards to anatomical outcomes, the objective success rate (prolapse < II stage) for both anterior and apical compartments was 68.9% (p- value= <0.001). Six patients had a vault prolapse recurrence, point C > -1. Twelve patients showed an anterior compartment prolapse of stage II or greater at follow-up examination but only five cases were considered “de novo” (non treated compartment). As for subjective outcomes, the scores of all P-QOL domains still showed a significant improvement at long-term follow-up compared to those before surgery (p-value<0.001). The failure in anterior and apical prolapse was found to be independent considering the following preoperative variables: age, parity, BMI, history of macrosome and operative delivery (p-values>0.05): the multivariate regression analysis has argued preoperative point C to be a risk factor for prolapse recurrence (p-value=0.018, 95% C.I [0.085-0.86]). Moreover, a light association between increasing BMI values and risk of POP recurrence must be taken in account (p-value=0.58, 95% CI=[0.98-0.56]).

INTERPRETATION OF RESULTS

Many findings support the use of sacrospinous ligaments as suspending structures for apical repair. However, the available evidence shows that the durability of support after SSLF may be dependent on the length of follow-up. In our cohort, anatomical outcomes were satisfactory also at a mean follow-up time of 5 years. In particular, apical recurrence occurred in 13.3% of patients. Anterior compartment was confirmed to

be the most frequent site of failure (26.7%). This could also be an expression of the preoperative situation, considering that seven out of twelve patients who developed an anterior prolapse had previously undergone an anterior repair. Patient satisfaction continues to be high at long-term, as demonstrated by the maintenance of significant improvement of P-QOL scores compared to those at baseline. Our operative data show that in expert hands SSLF (± additional procedures) can be performed quickly with an almost negligible blood loss. These are important advantages for elderly women who require surgical repair. Postoperative pain on day 1 was mild, as confirmed by a mean 0-10 VAS score < 5. Strengths of our study include the adequate follow-up and the great majority of procedures carried out by the same experienced vaginal surgeon. Limitations include the retrospective study design, the relatively small sample size and the 15.1% dropout rate that could represent a potential source of bias.

CONCLUSIONS

Our findings confirms that SSLF is a quick, safe and effective procedure for the primary repair of apical compartment. Moreover, they show that the durability of surgical repair after SSLF is satisfactory also in the long-term.

Table 1. Population Characteristics (53Pt)

Demographics	Mean (SD) or n (%)
Age, y	66.8 (9.3)
Body Mass Index, kg/m^2	26.6 (3.6)
No. of vaginal deliveries	2.3 (0.8)
No. of patients with fetal macrosomia	21 (46.6)
No. of patients with instrumental delivery	13 (28.9)

Table 2. Operative data, surgical procedures and complications (53pt)

Anterior repair	30 (56.6%)
Posterior repair	32(60.4%)
Enterocele repair	10 (18.9%)
Estimated blood loss, mL	93.1 $\pm$ 62.5
Operative time, min	49.6 $\pm$ 13.2
No. of procedures performed by the same surgeon	45 (88.2%)
VAS pain score at post-op day 1	4.9 $\pm$ 1.8

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117 - INITIAL EXPERIENCE OF RESTORELLE® DIRECT FIX ANTERIOR MESH IN TREATMENT OF PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Women have up to 50% lifetime risk of pelvic organ prolapse (POP) with 11.8% requiring surgery.[1] There has been a role for transvaginal mesh (TVM) for treatment of POP since the 1990s. However, concerns due to mesh-related complications have arisen recently highlighting the need for more research to better select patients for TVM.[2] This also helps clinicians provide thorough pre-operative counselling for women to make informed decisions.

Restorelle® Direct Fix Anterior Mesh is a light-weight (19g/m^2) synthetic polypropylene mesh shaped for transvaginal anterior compartment prolapse repairs. Restorelle® was introduced at our centre in March 2017. New products cannot be assumed to have equal or improved safety and efficacy unless long-term data are available.

This study aims to describe the initial experience of a single urogynaecological centre with Restorelle®, in particular analyzing the surgical, anatomical and symptom-related outcomes following POP repair with Restorelle®.

METHODS

Patients with Grade 3 or 4 cystourethroceles treated with Restorelle® at our urogynaecological centre between July 2017 and December 2017 were identified from the departmental database. Clinical characteristics and outcomes were identified through review of case notes. Post-operative follow-up data were collected up to 1 month post-treatment.

RESULTS

26 patients were treated with Restorelle®. The mean age was 67.2±7.3 years. All presented with symptomatic lump at introitus. 17 (65.4%), 11 (42.3%) and 9 (34.6%) reported concomitant frequency or nocturia, stress incontinence and urge incontinence respectively. 12 (46.2%) reported pre-existing voiding difficulties. 8 (30.8%) had prior hysterectomies.

19 (73.1%) patients had Grade 3 cystourethroceles while 7 (26.9%) had Grade 4 cystourethroceles. 4 (57.1%) patients with grade 4 cystourethroceles had hydronephrosis on pre-operative ultrasound.

18 (69.2%) underwent concomitant vaginal hysterectomy with Restorelle®. All underwent concomitant posterior colporraphy. 11 (42.3%) underwent concomitant mid-urethral sling procedures. 17 (65.4%) underwent sacrospinous ligament fixation. Duration of surgery was 116.3±20.8 minutes. Average estimated blood loss was 217.3±122.4ml. 3 (11.5%) patients required post-operative blood transfusion. Mean length of stay was 4.5±2.1 days. Median duration of urinary catheterization was 2.5(2-34) days. 4 (15.4%) had urinary retention beyond 14 days. 12 (46.2%) had fever for 1-3 days.

There were 2 intra-operative complications; 1 bladder perforation and 1 case where the left ureteric orifice was obscured at end-of-surgery cystoscopy. The latter case subsequently developed renal impairment secondary to kinked ureter at the level of pelvic floor repair post-operatively requiring surgical removal of Restorelle® with concomitant anterior colpohrrhaphy.

2 other patients required mesh loosening for urinary retention; 1 Restorelle® and 1 concurrently inserted mid-urethral sling.

At 1 month follow-up, there were 2 (7.7%) cases of abnormal urinary flow, 1 (3.8%) de-novo stress incontinence and 1 (3.8%) mesh extrusion into vagina. There were no recurrent cystoceles detected. All patients were pain-free and satisfied with surgery.

INTERPRETATION OF RESULTS

Common immediate complications following Restorelle® treatment are fever, anaemia and urinary retention. Injury to surrounding organs such as the bladder and ureter are less common. Cystoscopy is useful to identify surgical complications with Restorelle® treatment. Half the patients with post-operative urinary retention required surgical management.

CONCLUSIONS

Restorelle® provides high anatomical and symptomatic cure rates for Grade 3 and 4 cystourethroceles with good patient satisfaction.

These findings will improve pre-operative counselling for our patients. Long-term data of this cohort are currently being collected and studied.

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118 - A SYSTEMATIC REVIEW ON CONGENITAL VESICOUTERINE FISTULAS

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INTRODUCTION AND AIM OF THE STUDY

The term 'fistula' signifies an abnormal anatomical epithelialized connection between two hollow organs or a hollow organ and the body surface. In urogynaecology, the most common and classical examples are vesicovaginal and ureterovaginal fistulas. Vesicouterine fistulas (VUFs) are less common [1]. In such cases, the abnormal connection is localized between the lumen of the bladder and the uterine cavity (vesicocorporeal fistula), or the cervical canal (vesicocervical fistula).
The vast majority of VUFs are acquired cases. However, really infrequent yet most intriguing are congenital VUFs. To date, knowledge on them was based on singular reports not studied systematically [2]. The current investigation is a systematic review of available world data aiming to clinically characterize congenital VUFs and better understand the mechanism(s) of their formation.

MATERIALS AND METHODS

The PubMed® database via MEDLINE® search engine was explored from its inception until March 2018. Relevant studies were identified using selected Medical Subject Heading-based terms alone and in combination: *urogenital fistula, genito-urinary fistula, vesico(-)uterine, vesico(-)cervical, utero(-)vesical, cervico(-)vesical*, *menouria*, *cyclical hematuria*, *congenital, vaginal atresia, vaginal agenesis*, and *Youssef's syndrome*. All study types were selected and each potentially relevant communication was obtained in full text and assessed for inclusion independently by at least 3 authors. For statistical analysis, proportions of incidence of clinical features were compared with '*N* - 1' Chi-squared test.

RESULTS

A total of 6561 articles were identified of which 10 were analyzed. There was only one case (10%) of a vesicocervical fistula, the remainder (90%) represented vesicocorporeal fistulas. Excluding the sole neonatal case, the mean age at diagnosis was 18.67 ± 3.87 (SD) years (N = 9). Three cases accompanied broader syndromes of congenital defects. Besides one case without a clear description, a lack of patency at some level of the vagina was reported to be present in all (9/9; 100%) patients. As to the presence of the kidneys, no evaluation was provided in two early reports, unilateral renal agenesis was found in 4 patients, and the presence of both kidneys was confirmed in another 4. In other words, unilateral kidney agenesis was found in 4 of 8 (50%) subjects. These two proportions of incidence were found to be significantly different (P = 0.0186).
Particular attention was paid to assess any medical history of urinary incontinence in this predominantly adult population. Of importance, urinary incontinence was not reported in any of the subjects.
Even if detailed information was not available for all patients, it was possible to characterize the principal clinical features of congenital VUFs as follows: 1) some form of vaginal outlet obstruction, i.e. partial or complete vaginal atresia, resulting in primary amenorrhea, 2) menouria present since menarche, and 3) full urinary continence. Interestingly, primary amenorrhea, menouria, and continence of urine are cardinal features of type I acquired fistulas [3].

INTERPRETATION OF RESULTS

We believe that vaginal atresia present in all cases is a direct causative factor of congenital VUFs by triggering sequestration of tissues between the uterus and bladder due to a high fetal intrauterine pressure of unknown as yet origin, whereas unilateral renal agenesis is only an accompanying factor related to complex urogenital embryology.

CONCLUSIONS

The current review provides the first systematic evidence that congenital VUFs are chiefly associated with concomitant vaginal atresia, whereas unilateral kidney agenesis is related to a lesser degree. The symptomatology of these fistulas is consistent with that of type I VUFs.

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119 - URINARY INCONTINENCE BECAUSE OF AN ENORMOUS DRIPSTONE VAGINOLITH BUILDED FROM A FORGOTTEN IUD

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OBJECTIVE

A case report of vaginolith and review of the literature

INTRODUCTION AND AIM OF THE STUDY

Aim of the case report is to demonstrate the rare possibility of urinary incontinence because of a forgotten IUD that created an enormous dropstone vaginolith over 30 years.

MATERIALS AND METHODS OF THE CASE

The 60 years old female patient visited the urogynaecological clinic because of urinary incontinence specially during movements. She had no pelvic pain and no problems with nykturia and she told nothing about stool problems. The urinary incontinence started when the bladder capacity was filled more than 150 ml and during physical movements. She had no sexual intercourse for a long time.
The vaginal examination showed no organ prolaps but there was an very hard tumor in the vagina. It was like a stone in the vagina with sice of 7 cm. Vaginal Ultrasound was not possible through the stone. Her last gynaecological check up was 30 years ago. The abdominal ultrasound detected an IUD in the uterus. The urinary infection was treated with antibiotics bevor we prepared the vaginal operation. The vaginoscopy / hysteroscopy (Fig.1) and cystoscopy showed a normal and intact wall oft he bladder, without erosions or stones inside. We used a small baby forceps for the extraction oft he vaginolith and we shaved the stone carefully from the vagina (Fig.2). We could extract the vaginolith without injury of the bladder or urethra. After the removal oft he stone the wall of the vagina under the urethra was soft and normal. We pulled out the IUD from inside the uterus.
The report oft he pathology described calcification of mucus, detritus and material on the filament of the IUD.

RESULTS

Urine dripped along the filament of a forgotten IUD and formed a vaginolith. The growing stone created a disorder under the urethra and the patient suffered from urinary incontinence.
The literature Pub Med and Pub Med Central described only one scientific and medical abstract, a case report from 1994 with a gigant vaginolith in a girl.

INTERPRETATION OF RESULTS

We recommend regular gynaecological check-up for women and to pull out the IUD after 5 years.

CONCLUSIONS

A vaginolith is a rare but possible reason for urinary incontinence in women with forgotten IUD. The liquid is dripping down from the cave on the tapering structure hanging like an icicle from the roof. This « stalactite cave » formed stones by dripping water or urine. After 30 years a dripstone vaginolith formed.
It is nessesary to check the intact wall of the bladder before extraction to prevent a hole or cloake between bladder and vagina.

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Fig. 1: Vaginoskopy - Vaginolith under the urethra

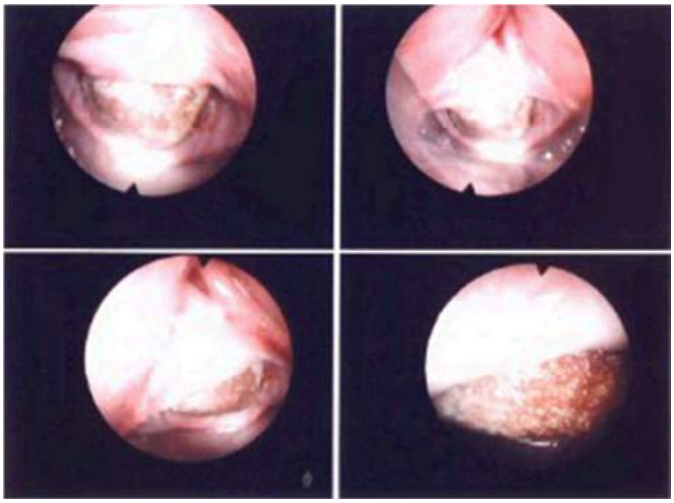
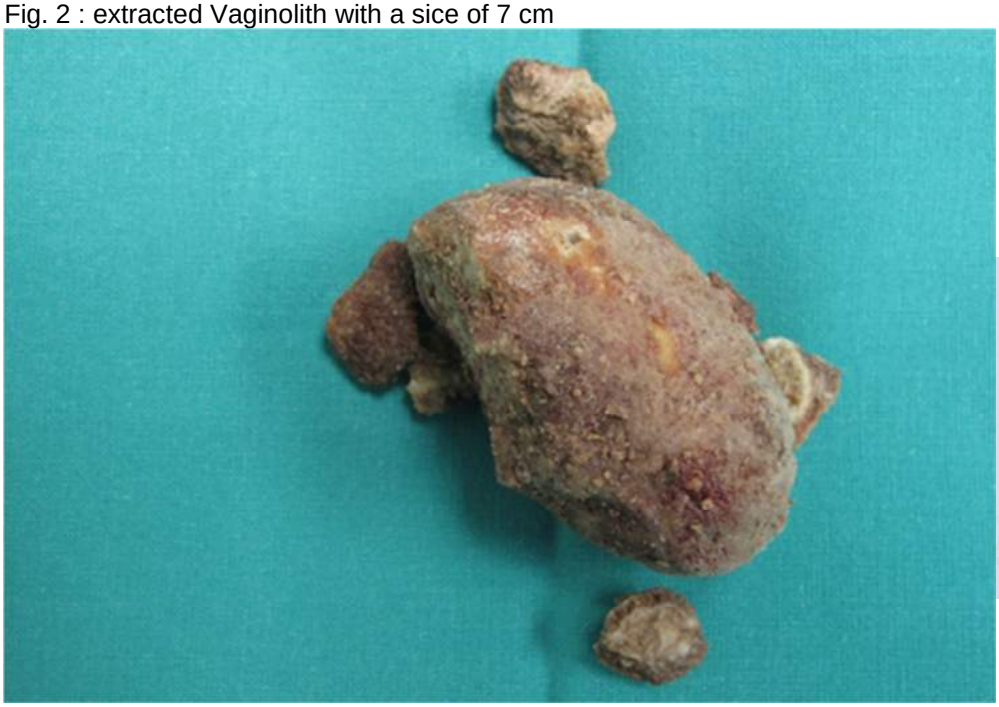


Fig. 2 : extracted Vaginolith with a sice of 7 cm



120 - IMAGING AND ASSESSEMENT OF SCHISTOSOMIASIS IN A UROGYNAECOLOGICAL CLINIC

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OBJECTIVE

A case report about imaging and assessement of schistosomiasis.

INTRODUCTION AND AIM OF THE STUDY

Aim of this case report is to demonstrate the pictures of schistosomiasis as a modern art of medicine to detect this disease. In past we detected this mostly with travel history, anamnesis or analysis of the urine. Today we need cameras and pictures.

MATERIALS AND METHODS

A 20 year old female patient visited our urogynaecological clinic because of dysuria and hämaturia. The standard examination is a vaginal examination and the ultrasound. The vaginal examination showed no pathology. During the ultrasound examination we found a special, echodense elongated structure on the right wall inside the bladder (Fig.1). That was the necessity of the cystoscopy. During the following cystoscopy we could investigate exactly this pathologic area from the ultrasound now with the real cystoscopy camera eye. Exactly on this area inside the bladder we found a cloud of gelatinous structures with a group of small, white, round eggs (Fig.2). During the examination of the whole area of the bladder wall we could recognize a lot of red and white, globular elevations on the surface (Fig.3). Suddenly opened one of this balls and a small, white, sperm-like structure crawled out (Fig 4). After that it swam through the bladder away. We took out the liquid for a cytological examination. At the end of the day we asked the patient about her travel history and she told about her holidays in Africa. She was swimming every day in nature pond and now we were thinking about parasites like snails.
We received the confirmation of the pathology about schistosomiasis hämatobium. The patient was treated with Praziquantel 60 mg per kg twice per 4 weeks.

RESULTS

We detected the schistosomiasis with modern technique of pictures like ultrasound and cystoscopy.

DISCUSSION

The literature in Pub Med showed 25846 publications for schistosomiasis and the most important detection of this disease is to listen to the patient.
Schistosomiasis is one of the most important parasitic diseases in the world. Globally, it is estimated that the disease affects over 200 million people and is responsible for 200,000 deaths each year. The three major schistosomes infecting humans are Schistosoma mansoni, S. japonicum, and S. haematobium [1].
In our countries we have the possibility to use modern, elektronique techniques as standard examination, but on the other hand we have to look carefully after the costs of the medical system.

INTERPRETATION OF RESULTS AND CONCLUSION

It`s nice to have good pictures and expensive examinations to discover the disease but we should talk more with our patients and listen their stories. To confirm a schistosomiasis we need only the economical anamnesis and the morning urine of the patient.

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Fig.1: Schistosomiasis cloud of eggs detected with ultrasound

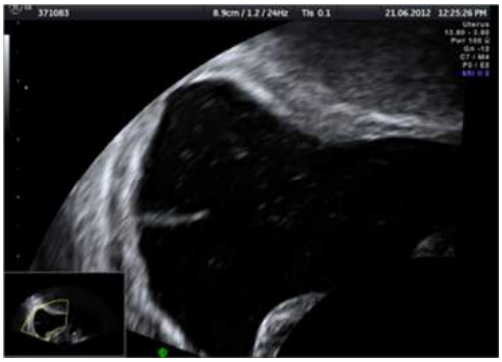


Fig.2 : Confirmation of the ultrasound with cystoscopy to detect schistosomiasis cloud of eggs

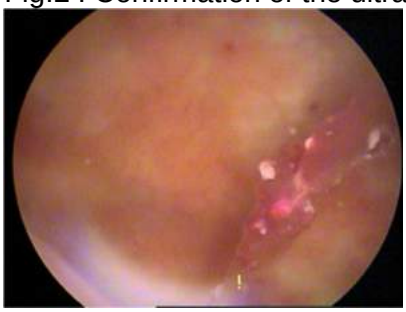


Fig. 3: Schistosomiasis sleeping in the bladder wall

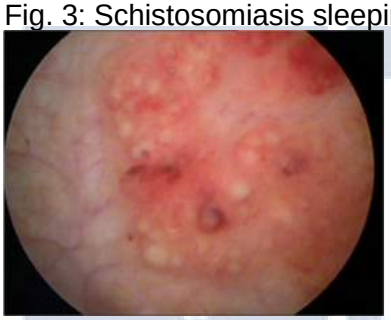
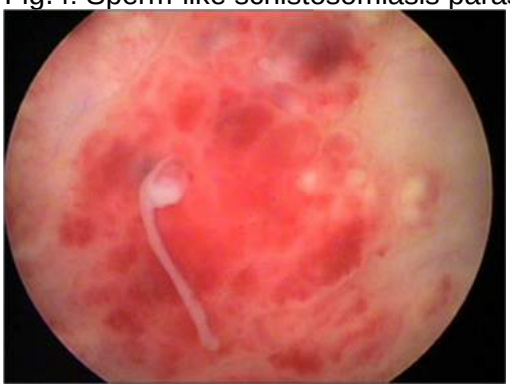


Fig.4: Sperm-like schistosomiasis parasite



121 - TRANSVAGINAL HIGH UTEROSACRAL LIGAMENT SUSPENSION: AN ALTERNATIVE TO MCCALL CULDOPLASTY IN THE TREATMENT OF PELVIC ORGAN PROLAPSE.

Luca Giuseppe Sgro (1) - Lorenzo Novara (1) - Nicoletta Biglia (1) - Silvia Pecchio (1) - Matteo Migliore (1) - Guido Menato (1)

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INTRODUCTION AND AIM OF THE STUDY Defects in female pelvic organ support are highly prevalent. Uterosacral ligament suspension at time of primary prolapse repair represents a well established surgical option to prevent prolapse recurrences.The aim of our study is to compare the effectiveness, complication rate, recurrence rate, quality of life and functional result of Shull's high uterosacral ligament suspension and modified McCall culdoplasty. A study was carried out in 2016 by Milani, Spelzini et. al. which compared these two techinques, showing good safety and efficacy in the treatment of prolapse, with no significative differences in terms of operative times, complication rate, anatomical, functional and subjective outcomes[1].

MATERIALS AND METHODS A retrospective study was carried out on 224 patients who underwent vaginal cuff suspension for pelvic organ prolapse Cases were extracted from hospital medical records of all women managed with surgical prolapse repair at our Gynaecology and Obstetrics department between January 2013 and February 2017. Shull suspension (group A) or McCall culdoplasty (group B) were performed according to surgeon choice based on patient characteristics.

RESULTS A total of 224 patients (69 in group A and 155 in group B) underwent surgical cuff suspension. Operating time and hospitalization were similar in the two groups. Anatomical outcomes in terms of recurrence rate did not show any difference. Pop-Q items analysis revealed only a different Aa point between groups (p =0,04) at a 12 months follow up visit (Table 1). In the evaluation of post operative questionnaries no significative findings were found, except for "Urinary Impact Questionnaire" (UIQ), which showed significantly less urinary subjective symptoms in group A (p 0,02). Mean follow up was 12 months. Objective recurrence was observed in 15 patients (21.7%) in group A and 44 patients (28.4%) in group B with no significative difference between the two groups (p 0,3) (Table 2).

INTERPRETATION OF RESULTS Average operating time was 88 minutes for both techniques while in literature is described a 106 min time for McCall culdoplasty and 115 min for Shull's suspension[1]. Complication rates of the two techniques were similar: in particular, ureteral injuries were very low in both group A and B (1.44% and 0 % respectively) and concordant with 1.8 % of ureteral obstruction, which was described in a systematic review of USL suspension[2] and with the results of the study performed by Spelzini[1] (1,9% with MCall technique and 0,8% with Shull suspension). Vaginal profiles, expressed with the POP-Q system, were similar in the two groups, with the exception of Aa point which was 3,5 mm higher in group A while no significative differences were found in TVL between the two groups (it was reported to be 8 mm longer in patients submitted to Shull's suspension in the study performed by Spelzini[1]). This difference may be not clinically relevant if we consider similar outcomes between groups in terms of sexuality.

The improvement of urinary symptoms found in group A is in consistent with the review by Margulies et al.[2], which concluded that urinary and bowel symptoms improve after transvaginal USL suspension procedures. It would be interesting to have an objective evaluation of this improvement by submitting patients to pre and post-operative urodinamics in the future.

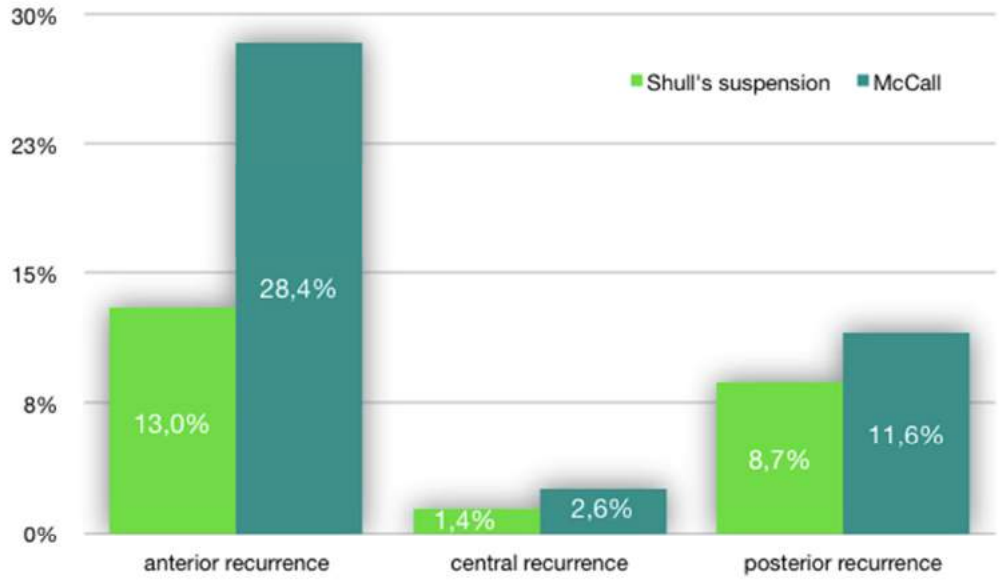
Recurrence rate at a 12 months follow up visit is also consistent with another study by Spelzini et. al. which reported a 25,2% recurrence rate with a 24,5 months follow up after transvaginal native-tissue repair of vaginal vault prolapse[3].

CONCLUSIONS Both uterosacral ligament suspension procedures are safe and highly effective. There were non clinically significant differences with regard to surgical data, complication rates, the majority of anatomical, functional and subjective outcomes between Shull suspension and modified McCall culdoplasty.

(Table 1) Anatomical outcomes

Vaginal profiles at 12 months mean follow up	Shull's sospension	McCall	P
Aa	-1,69 (±0,12)	-1,35 (±0,1)	0,04
Ba	-1,66 (±0,14)	-1,52 (±0,09)	0,42
Ap	-1,85 (±0,12)	-1,84 (±0,1)	0,91
Bp	-1,9 (±0,12)	-1,92 (±0,09)	0,9
C	-5,15 (±0,22)	-4,74 (±0,16)	0,14
Gh	4,46 (±0,12)	4,48 (±0,09)	0,9
Pb	3,01 (±0,11)	2,77 (±0,056)	0,03
TVL	6,73 (±0,14)	6,7 (±0,1)	0,88

(Table 2) Recurrences after 12 months follow up visit



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122 - METABOLIC RISK FACTORS IN WOMEN WITH PELVIC ORGAN PROLAPSE.

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INTRODUCTION AND AIM OF THE STUDY

The prevalence of pelvic organ prolapse (POP) has been rising with the increase in life expectancy with a reported lifetime risk of POP surgery of 11%.[1] The aetiology of POP is multifactorial and known causal factor are genetic factors, pregnancies, vaginal delivery, ageing, levator ani avulsion and increased body mass index (BMI). Obesity has been associated with an increased risk of POP because of increased abdominal pressure. Anyway, data regarding possible metabolic-related implications are still scarce. One study recently reported that the diagnosis of metabolic syndrome (MS) and the presence of hypertriglyceridemia may be associated with the severity of POP.[2] The aim of our pilot study was to assess metabolic risk factors in patients with different genital prolapse stages according to Pelvic Organ Prolapse Quantification system (POP-Q) and in a control group of women without prolapse.

MATERIALS AND METHODS

A total of 168 women were enrolled in the study: 115 women with genital prolapse POP-Q stage ≥ 2 and 53 women without genital prolapse at gynecological examination. For each patient, we evaluated: BMI, waist circumference, waist-hip ratio (WHR), blood pressure, fasting glucose, insulin, serum triglycerides, total cholesterol, high-density lipoprotein cholesterol (HDL).

RESULTS

Among the 115 post-menopausal women with genital prolapse, 35 had POP-Q stage 2, 58 stage 3 and 22 stage 4. Triglyceride levels were statistically different among groups (p=0.039) with levels increasing with prolapse severity. HDL levels were significantly higher in the control group than in women with prolapse (p=0.0003). Compared to the control group, women with prolapse and in particular with stage 4, had significantly higher fasting glucose levels (p=0.0003). BMI was in overweight range for all groups (stage 2, 26.1±5.6; stage 3, 25.8±5.3; stage 4, 28.9±5.3; control group, 24.6±4.8). The rate of MS was higher in the stage 4 group but without any statistically significant difference: MS was present in 11.4% of stage 2, 15.5% of stage 3, 18.2% of stage 4 and in 9.4% of control group.

INTERPRETATION OF RESULTS

If compared to a control group, women with prolapse presented higher fasting glucose and triglyceride levels. Among women with prolapse glucose and triglyceride levels increased with prolapse severity. HDL cholesterol levels were higher in women without prolapse.

CONCLUSIONS

Metabolic impairment may be a risk factor for POP independently from obesity. These data should be confirmed in larger cohorts and further studies are needed to understand the possible causal mechanism.

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123 - EVALUATION ON DIAPERS USE AND RELATED SUBJECTIVE INCONTINENCE SEVERITY: AN ITALIAN SURVEY

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Obst and Gynecology, S. Pio X Humanitas, Milan, Italy (1) - Neurologic Center, H. S. Giovanni Bosco, Torino, Italy (2) - AOU Città Salute e Scienza, CTO, Torino, Italy (3) - U.O. Urologia, Spedali Civili, Brescia, Italy (4) - Dip Economia Aziendale, Università Roma 3, Roma, Italy (5) - Unità uroginecologia, Osp V. Buzzi, Milano, Italy (6) - Urologia Pediatrica, Osp Bambin Gesù, Roma, Italy (7)

INTRODUCTION AND AIM OF THE STUDY

Type of incontinence (stress vs. urge vs. mixed) ,age, social activities, general health conditions, mobility, co-morbility and other mixed parameters have an influence on diaper consumption, other than degree of incontinence. Our work aims to correlate the severity of urinary incontinence, as perceived by patients, to the use of pads and the costs for continence products , making distinction between the costs that are sustained by the national healthcare system (NHS) and private expenditures.

MATERIALS AND METHODS

We have investigated by means of a self-administered questionnaire a group of 68 female patients attending centers for incontinence care, affected by various degree of incontinence. The questionnaire is composed by 20 questions, investigating the subjective degree and the type of incontinence, the perceived condition and related modification in quality of life. We added questions about the type and number of continence products used both daily and nightly, how much the diapers were wet when changed, the eventual reimbursement by NHS. These data were examined under an economic point of view to quantify the related costs. Patients data were categorized by subjective incontinence (very slight, slight, moderate, heavy and very heavy), number and type of product used (small or medium or large sized diapers daily or nightly) quality of life decrease (in a subjective scale 0-10). A correlation between these data and the rate of reimbursement by NHS was made.

RESULTS

Patients age ranged from 22 to 85 yrs. (average 61.8 yrs.): 48.1 % pts. were older than 65 yrs. Daily leakage frequency ranged from 0 to continuous leakage (see table 1):38.2 % low frequency (less than once a day), 61.7 % moderate or severe frequency leakage (once daily or more). The Q.o.L. was heavily affected by incontinence (6-10 points) in 73.5 % of pts. The subjective severity of incontinence was reported as very slight or slight in 25% of pts., moderate in 47 % and severe or very severe in 27.9% of pts. The daily diapers use was reported as low (1-2 of small size) in 39.7 % , medium (2 or more of medium size) in 32.3 % and high (large products) in 27.9 % of pts. Considering the correlation between the subjective severity index and the use of diapers, we observed that 70.5 % of pts. with slight incontinence used only small diapers, 68.7 % of pts. with moderate incont. used small or medium diapers, and finally 47.3% of pts. with severe incont. used large diapers.

The correlations between the subjective severity index and the decrease in Q.o.L. was significant, as we showed that Q.o.L. was heavily deteriorated in 47.0 %, 71.8 % and 100 % of pts. respectively in the 3 groups of increasing severity (p< .05). Very good correlations were found even between the subjective severity index and the frequency and quantity of daily leakage.

27% of pts. underwent or were under rehabilitative or pharmacological treatment. In our samples only in 10 % of pts. diapers were provided by NHS.

Table 1- Results

Subjective Severity	N°	Day leakage frequency		Day quantity of leakage		Q.o.L. decrease		Diapers used daily		
		Low	High	Little	Much	0-5	6-10	Little	Medium	Large
Low	17	13	4	15	2	9	8	12	5	-
Moderate	32	9	23	14	18	9	23	12	10	10
Heavy	19	4	15	3	16	0	19	3	7	9
Total	68	26	42	32	46	18	50	27	22	19

INTERPRETATION OF RESULTS

A good correlation between the subjective severity index and the use of diapers was observed, as well as the correlation with Q.o.L. modifications. In a previous report (2) we found that the average expenses were 291 €, 684 € and 795 € per year in the 3 groups of severity, respectively: these data can be confirmed by the present study . However the rates of products provided by NHS is very different from those commonly reported in the literature: therefore data must be re-considered in larger samples in order to explain this incongruence, that may be due partially to the fact the small diapers are not reimbursed.

CONCLUSIONS

Subjective severity of incontinence has a significant impact on Q.o.L. and diapers adoption, although it cannot exactly foresee type and number of used pads.

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124 - EARLY OUTCOMES WITH THE USE OF UPHOLDTM VAGINAL MESH FOR THE MANAGEMENT OF ANTERIOR AND APICAL VAGINAL WALL PROLAPSE IN A SINGLE CENTER

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KK Women's & Children's Hospital, Department of Urogynaecology, Singapore, Singapore (1)

INTRODUCTION AND AIM OF THE STUDY

The Uphold™ vaginal mesh is a lightweight polyform mesh made from macroporous monofilament uncoated type I polypropylene. It is designed to provide level I support at the vaginal apex while also providing level II support for any accompanying cystocele. Only two fixation points are used, with no fixation laterally into the levators or obturator muscles.

The study aims to assess the efficacy and safety of the Uphold™ vaginal mesh for the management of anterior vaginal wall prolapse.

MATERIALS AND METHODS

The study was a retrospective study in which the case notes of 27 women undergoing Uphold™ vaginal mesh insertion at our centre from 1st July 2017 to 28th February 2018 were retrieved. The preoperative parameters, intraoperative details, immediate postoperative and one month follow up data of these patients were evaluated.

RESULTS

The average age of the patients was 65 years. 23 (85.2%) patients had grade 3 cystocele and 4 (14.8%) had grade 4 cystocele preoperatively. 4 (14.8%) had grade 2 cervical descent, 5 (18.5%) had grade 3 and 18 (66.7%) had grade 4 cervical descent. All the patients had concomitant vaginal hysterectomy, 13 (48.1%) had concomitant sacrospinous ligament fixation (SSF) and 13 (48.1%) had midurethral sling insertion. The average duration of the surgery without concomitant SSF was 99.6 minutes and with SSF was 117.8 minutes. The average blood loss without concomitant SSF was 210.7ml and with SSF was 211.5ml. 1 (3.7%) patient had a rectal perforation intraoperatively which was repaired in 2 layers and 1 (3.7%) had excessive blood loss which required 1 unit of blood transfusion. 9 (33.3%) patients had voiding dysfunction of up to 11 days postoperatively and 1 (3.7%) required readmission for midurethral tape loosening. 1 (3.7%) patient had fever (more than 38°C) postoperatively.

23 of 26 patients (88.5%) completed 1 month follow up postoperatively. 3 patients defaulted the follow up and 1 was not yet due for follow up. All the patients were satisfied with the surgery at 1 month follow up. 1 (4.3%) of them complained of occasional stress urinary incontinence and 2 (8.7%) complained of occasional urgency and urge incontinence. None of the patients had wound dehiscence or mesh extrusion on examination.

INTERPRETATION OF RESULTS

The short term success rate and rate of complications with the Uphold™ vaginal mesh appear to be similar to those reported with other vaginal mesh kits.

CONCLUSIONS

The short term success rate and rate of complications with the Uphold™ vaginal mesh appear to be similar to those reported with other vaginal mesh kits. However, long term follow up data regarding its safety and efficacy is required.

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125 - TOTAL VAGINAL RECONSTRUCTION WITH PEDICLED ANTEROLATERAL THIGH FLAP: A NOVEL APPROACH

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INTRODUCTION AND AIM OF THE STUDY

Complex acquired vaginal defects following major oncological surgery constitute challenging cases when reconstruction is required. Defects often extend to other structures besides the vagina, including vulva and perineum, urethra, urinary bladder and abdominal wall, thus requiring tridimensional coverage. Additionally, local healing conditions can be poor due to potential urinary and fecal contamination and possible previous radiotherapy treatments. Classically, regional flaps such as the bilateral gracilis flap or bilateral Singapore flaps have been used to reconstruct total circumferential vaginal defects. We report a case of an alternative reconstructive approach for total vaginal reconstruction[1].

MATERIALS AND METHODS

A 39-year-old patient was diagnosed at the age of 26 with cervical squamous cell carcinoma, FIGO stage IV.A, and submitted to chemotherapy and radiotherapy treatments, anterior pelvic exenteration and radiation cystitis leading to multiple bladder surgeries. Four years later, the diagnosis of vaginal intraepithelial neoplasia type 3 was made and total colpectomy and distal ureterectomy were performed. Due to disease relapse, total pelvic exenteration, urinary diversion, segmentar enterectomy and colostomy were undergone. An enterocutaneous fistula with sepsis developed and a gracilis muscle flap was later performed, but failed to completely resolve the complication. Thirteen years after the first diagnosis, and because of persistent perineal enterocutaneous fistula, the patient was submitted to total vaginal reconstruction with a pedicled, tunnelized and tubed, suprafascial, left anterolateral thigh (ALT) flap, based on a perforant branch of the descending femoral circumflex artery (Figs 1 and 2). The healing process was slow but favorable. Hospital discharge was achieved one month after surgery. By one-year follow-up, no vaginal introitus constriction nor fistula relapses were reported.

CONCLUSIONS

The ALT flap has proven to be a versatile reconstructive option and has been popularized mainly as a free flap. However, very few reports on its employment as a pedicled flap on abdominal and perineal reconstruction have been published to date[2]. ALT flap can provide a long pedicle outside the previous radiation field, can carry different amount of tissues, such as skin, fat fascia or muscle according to the necessity, has a predictably well vascularization pattern and the donor area morbidity is minimal. This case shows that this flap can be safely used for reconstruction of large and complex perineal defects as well as to reconstruct a vaginal pouch, with the advantage of easily tubing of the flap for insertion and reconstruction of the vaginal structure.

Fig 1

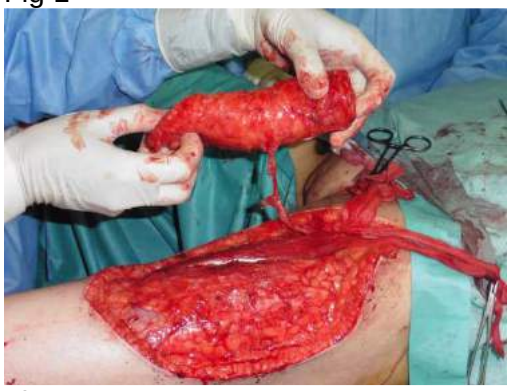
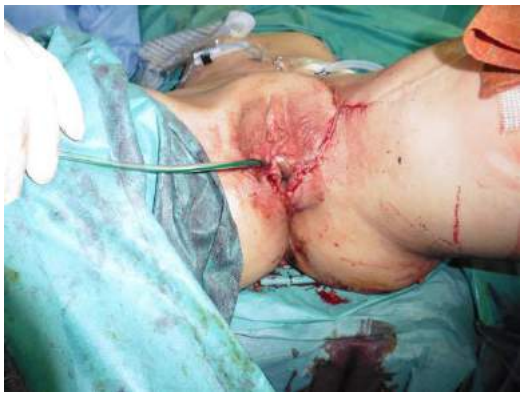


Fig 2



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126 - EVALUATION OF DIFFERENT SURGICAL APPROACHES ON POSTOPERATIVE VAGINAL VAULT PROLAPSE, STRESS INCONTINENCE AND QUALITY OF SEX LIFE: 5 YEARS OF FOLLOW-UP

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INTRODUCTION AND AIM OF THE STUDY
Vaginal vault prolapse, stress incontinence and decrease in quality of sex life are the main long-term problems after the gynecologic operations. The aim of this study to evaluate the patients in long-term period for analyzing how we can protect from these conditions, and to highlight that is there any correlation between the way of performing surgery or additional bilateral salpingo-ooferectomy or prophylactic vault suspension to uterosacral ligaments effecting to postoperative occuring conditions.
MATERIALS AND METHODS
200 registered patients were divided into 4 groups according to different surgical approaches (n:50). Group A was operated with total hysterectomy by laparoscopy;Group B was operated with total hysterectomy and bilateral salpingo-ooferectomy by laparoscopy; Group C was operated with total hysterectomy in addition with vault suspension to uterosacral ligaments by laparotomy; Group D was operated with total hysterectomy with bilateral salpingo-ooferectomy in addition with vault suspension to uterosacral ligaments by laparotomy. All the patients were evaluated in every 3 months by the same investigator between 2013 January and 2018 May. The median follow–up was 4.1(2.3-5.5) years. All patients were evaluated both objectively and subjectively by using Pelvic Organ Prolapse Quantification System (POP-Q), Q Test, Cough Test and Pelvic Organ Prolapse/Urinary Incontinence/Sexual Questionnaire (PISQ-12).
RESULTS
As a result of our evaluation there were no significant difference for vaginal vault prolapse, stress incontinence in Group C and Group D after operations. A significant increase in quality of sex life was observed in these two groups ($p<0.05$). Vaginal vault prolapse occured 9 of 50 (18%) patients in Group A, 8 of 50 (16%) in Group B; stress incontinence occured 7 of 50 (14%) patients in Group A, 9 of 50 (18%) in Group B; decrease in quality of sex life occured 10 of 50 (20%) patients in Group A, 9 of 50 (18%) in Group B.
INTERPRETATION OF RESULTS
We concluded that the way of performing surgical technique or adding bilateral salpingo-ooferectomy do not effect the pelvic floor structure. The main determinant factor to protect from vaginal vault prolapse, stress incontinence and decrease in quality of sex life is prophylactic vault suspension to uterosacral ligaments.
CONCLUSIONS
We recommend adding vault suspension to uterosacral ligaments during surgical procedures, both by laparoscopy and laparotomy independently from bilateral salpingo-ooferectomy.
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127 - SHOULD WE CHANGE OUR ATTITUDE IN PATIENTS WITH RISK FACTORS FOR URINARY INCONTINENCE?

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) is defined as a condition of involuntary loss of urine. The most common types are: stress urinary incontinence (SUI), urge urinary incontinence (UUI) and mixed urinary incontinence (MUI). SUI is the complaint of involuntary leakage on effort or exertion, or on sneezing or coughing. UUI is the complaint of involuntary leakage accompanied by or immediately preceded by urgency MUI is the complaint of involuntary leakage associated with urgency as well as with exertion, effort, sneezing or coughing.

Our aim was to verify to what extent, in our population, the presence of known UI risk factors[1] (obesity, tobacco use, diabetes mellitus, vaginal delivery and/or instrumental delivery, physical exercise, chronic cough), affect the results of the transobturator vaginal tape (TVT-O) surgery.

This way, we could make more specific counselling to women undergoing this surgery, to have limited expectations about the surgery results.

MATERIALS AND METHODS

We performed a descriptive retrospective study of patients undergoing TVT-O surgery in our hospital, which has a residency program, either alone or in association with other kinds of pelvic organ prolapse (POP) repair. The period was between 2012 and 2015.

Our outcomes were the resolution of the urinary incontinence based on the International Consultation on Incontinence Questionnaire - Short Form (ICIQ-SF). ICQ-SF punctuation equal or over 5 in the post-surgery consultations was considered to be a failed incontinence correction.

We stratified the population based on different risk factors (obesity, tobacco use, diabetes mellitus, vaginal delivery and/or instrumental delivery, physical exercise, chronic cough).

We used a multivariate analysis to find out differences between patients with known risk factors and patients who had none, to compare the resolution of the UI at one month post-surgery and at the 3 years post-surgery. In both cases, the patients were coming to a consultation at the hospital, and they were submitted again to the ICIQ-SF test to verify the resolution of the UI.

RESULTS

We performed 95 TVT-O during this 4 years period (2012-2015). We have a 15 years long experience in TVT-O surgery. The patients suffered from pure SUI (43%), MUI (31.6%) or occult SUI (23.2%).

53.7% of the TVT-O were performed alone, while 46.3% in association with other POP repair surgery. 57.9% of the patients had one or more risk factors among the above mentioned, while 42.1% had none.

The curation rate in our population at the one-month post-surgery consultation was 89.7% in patients with no risk factors, while it reached 95.4% among patients with one or more risk factors. This difference resulted to be no statistically significant with a p value of 0.444. Before the one-month post-surgery consultation, 1 patient was lost (1.1%). Over the 30 patients suffering from MUI, 21 (70%) were completely cured (both from SUI and UUI), 8 (26.7%) were cured from SUI but were still affected by UUI and only 1 patient (3.3%) was not cured at all.

At the 3-years post-surgery consultation the curation rate decreased to 84.2% in patients with no risk factors, and to 88.2% in patients with one or more risk factors. In addition, this difference was not statistically significant with a p value of 0.691. Before the three years post-surgery consultation, 42 patients were lost (44.2%).

		1 month correction		3 years correction	
		No	Yes	No	Yes
Risk Factors	None	4 (10.3%)	35 (89.7%)	3 (15.8%)	16 (84.2%)

	≥1	3 (5.5%)	52 (94.5%)	4 (11.8%)	30 (88.2%)
Total		7 (7.4%)	87 (92.6%)	7 (13.2%)	46 (86.8%)
		94 (100% - 1 missing)		53 (100% - 42 missing)	

INTERPRETATION OF RESULTS

The results of our study suggest that, in our population, patients with risk factors for poor results incontinence surgery, does not seem to lead to worse result at 1 month, nor at 3 years post-surgery, if compared with patients with one or more risk factors.

CONCLUSIONS

These results led us to think about modifying the way we perform our pelvic floor consultations, where we always underline to our patient the importance of trying to reduce the modifiable risk factors, to be considered good candidates for the surgery, and to improve the probability of complete curation of the UI[2, 3].

These results should be confirmed by more potent studies, in similar conditions, with a greater number of patients, and possibly with a prospective design.

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128 - POSITIVE EFFECTS OF VAGINAL BILATERAL HYSTEROPEXY WITH SPLENTIS°-TAPE ON PROLAPSE SYMPTOMS AND QUALITY OF LIFE IN WOMEN WITH SEVERE PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

To evaluate the improvement of symptoms and quality of life after uterus-preserving vaginal bilateral hysteropexy with Splentis°-tape in women with pelvic organ prolapse POPQ stage 2 or higher. There is still a lack of valuable data on outcomes after POP reconstruction with uterus preservation. Innovative new treatment options with tension-free bilateral fixation of uterus using small 8cm polypropylene tape Splentis° fixing on both sacrospinous ligaments leads to shorter operation time and adequate objective and subjective results in prolapse repair. The primary aim of this prospective study was to determine whether uterus preserving bilateral sacrospinous hysteropexy in treatment of uterine prolapse after 12 months is safe with improvement of symptoms.

MATERIALS AND METHODS

Between May 2017 and May 2018 96 healthy women (age 41 – 87) with pelvic organ prolapse and uterine prolapse stage 2 or higher requiring surgery were enrolled in this prospective study. POPQ examination was performed at baseline and at 6 weeks, 6 months, and 12 months after surgery follow-up. At the time of the follow-up visits women completed german validated disease-specific quality of life questionnaire. Primary outcome was a composite outcome measure of recurrent prolapse stage 2 or higher of uterus with bothersome bulge symptoms or repeat surgery for recurrent uterus prolapse. Secondary outcomes were: functional outcome, quality of life, overall anatomical failure (prolapse stage 2 or higher in any compartment), a composite outcome of success (no prolapse beyond the hymen, no bothersome bulge symptoms, and no repeat surgery.

RESULTS

Uterus-preserving vaginal bilateral sacrospinous hysteropexy with anterior fascial plication was successfully performed in all cases. Mean operation time was 28 min (13-63). No intraoperative complications like bladder lesion, infection, bleeding >200ml, e.g. occurred. Initial mean postoperative pain VAS 0-10 was 0.8. Hospital time was 3.4 days, demission at home in all cases with residual urine less 100 ml. After 6-12 months there were no erosion or dyspareunia in sexual active patients. All patients achieved primary and secondary outcome. All patients showed POP-Q ≤ I in any compartment. 2 patients had pelvic pain VAS 4, 1 patient had hydronephrosis due to kinking ureter through colporrhaphia anterior with insertion of DJ stent. 4 patients developed demasked stress urinary incontinence and were treated with suburethral sling separately.

INTERPRETATION OF RESULTS AND CONCLUSIONS

According to our results, 6 - 12 months after uterus-preserving vaginal bilateral sacrospinous hysteropexy with Splentis°-tape patients have significant improvement of prolapse symptoms and general quality of life without severe side effects or complications. Uterine-preserving prolapse surgeries improve operating time, blood loss and seem adequate effective as prolapse repair with hysterectomy. Surgeons could offer uterine preservation as an effective option for pelvic floor reconstruction.

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129 - THE EFFECTIVENESS OF MCCALL CULDOPLASTY FOLLOWING VAGINAL HYSTERECTOMY IN ADVANCED UTERINE PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Approximately 1/3 of inpatient hysterectomies are performed vaginally world-wide. The most common indication for vaginal hysterectomy (VH) is uterine prolapse. There are various methods for fixating the vaginal apex following VH and one of them is McCall culdoplasty. Some authors suggest it for mild stages of pelvic organ prolapse (POP) only, as data is scarce about its effectivity in advance stages (1).

Our aim was to subjectively compare the effectiveness of McCall culdoplasty in advanced vs. early stages of uterine prolapse.

MATERIALS AND METHODS

Utilizing the accepted pelvic floor disability index questionnaire (PFDI-20), a phone survey was conducted with women who had undergone VH and concomitant McCall culdoplasty for POP, over the years 2009-2016 at a single university medical-center. The severity of uterine prolapse was defined according to POP-Q system. Group 1 consisted of women with prolapse grades 1 or 2, while group 2 consisted of women with grades 3 or 4. The primary outcome was defined as the subjective recurrence of prolapse, as demonstrated by question-3 in the PFDI-20 questionnaire. Post-operative complications were classified according to the Clavien-Dindo classification.

RESULTS

During the study period, 227 patients underwent VH, out-of-which, 135 (59.5%) met the inclusion criteria and were available for evaluation. Group 1 consisted of 26 (19.3%) patients, while group 2 consisted of 109 (80.7%). There were no differences between the groups with regards to demographic and clinical characteristics (Table 1).

There were no differences between the groups with regards to the primary outcome of recurrence of prolapse (p=1.000, Table 2). This was emphasized by the fact that group 2 had a longer period of post-operative follow-up. Other POP and colorectal-anal components of the PFDI-20 questionnaire, were similar between the groups (Table 2). Group 2 had an overall more urinary complaints as demonstrated by the UDI-6 result (p=0.011), but there were no differences between the groups in its individual components/specific urinary complaints (Table 2).

The rates of concomitant prolapse, as well as, incontinence surgeries, performed at the time of VH, were the same (Table 1). Regarding the overall and complication-specific-grades, no significant differences were found between the groups despite a higher estimated intra-operative blood loss in group 1 (188.9±124.4 ml. vs. 139.4±38.7 ml, p<0.001, Table 2).

INTERPRETATION OF RESULTS

VH is not a treatment for apical vaginal prolapse, hence, it is important to perform vaginal apical fixation at the end of VH to prevent recurrences of POP. In our study, we were able to demonstrate the subjective effectiveness of McCall culdoplasty in the prevention of recurrence of apical vaginal prolapse following VH even in advanced stages of prolapse.

CONCLUSIONS

McCall culdoplasty may be an effective method for fixation of the apical vaginal wall following VH in both mild and severe uterine prolapse cases.

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Table 1. Patient characteristics

Mean ± SD or N (%)	Group 1 (n =26)	Group 2 (n = 109)	p
Age (Years)	65.2±9.9	68.5±9.5	0.116
Gravidity	4.4±2.0	4.1±2.2	0.526
Parity	3.0±1.2	2.9±1.2	0.703
Cesarean section	6 (23)	9 (8.2)	**0.042**
No of women in menopause	24 (92.3)	108 (99)	0.095
Menopause (Years)	17.2±9.9	20.9±9.9	0.089
Hormone replacement therapy	4 (15.3)	7 (6.4)	0.222
Duration of complaints (Months)	17.8±30.3	29.0±44.6	0.227

Concomitant urinary complaints	18 (69.2)	63 (57.7)	0.374
Concomitant vaginal wall prolapse			
Cystocele ≥ grade 3	21 (80.7)	93 (85.3)	0.555
Rectocele ≥ grade 3	1 (3.8)	14 (12.8)	0.302
Concomitant prolapse and incontinence surgery			
Anterior colporrhaphy	25 (96.1)	101 (92.6)	1.000
Posterior colporrhaphy	20 (76.9)	62 (56.9)	0.747
Transobturator tape insertion	20 (76.9)	81 (74.3)	1.000

Table 2. Outcome

Mean ± SD or N (%)	Group 1 (n = 26)	Group 2 (n = 109)	p
Post-operative complications distributed by the Clavien-Dindo grade			
All grades	0 (0)	8 (7.3)	0.353
Grade 1	0 (0)	6 (5.5)	0.595
Grade 2	0 (0)	2 (1.8)	1.000
All other grades (3-5)	0 (0)	0 (0)	1.000
Estimated blood loss (ml)	188.9±124.4	139.4±38.7	**<0.001**
Post-operative hospitalization (days)	5.0±0.6	5.1±1.2	0.681
Follow-up period (Mo)	60.8±33.9	90.6±10.0	**<0.001**
Pelvic Floor Distress Inventory (PFDI 20) questionnaire (questions 1-20)			
POPDI-6*	13.5±18.2	12.0±17.0	0.691
CRADI-8**	12.7±11.7	14.0±18.2	0.729
UDI-6***	8.7±24.4	22.5±24.4	**0.011**
PFDI-20 overall score	14.5±14.0	16.0±16.7	0.673
PFDI 20-Q 3- *Awareness of prolapse (≥2)*	13 (50)	54 (49.5)	1.000
PFDI 20-Q 17- *Stress urinary incontinence (≥2)*	17 (65.3)	89 (81.6)	0.108

*POPDI-6= Pelvic Organ Prolapse Distress Inventory (questions 1 – 6)
**CRADI-8= Colorectal-Anal Distress Inventory (questions 7 – 14)
***UDI-6= Urinary Distress Inventory (questions 15 – 20)

130 - INVESTIGATION OF THE FACTORS AFFECTING URINARY INCONTINENCE IN TURKISH WOMEN

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INTRODUCTION AND AIM OF THE STUDY

UI is more common in women than in men and affects women of all ages. Prevalence rates vary between 9% and 72% of women aged 17 to 79 years living in the community (1). Despite its high prevalence, little is known about associated risk factors of UI. One of the main risk factors for developing UI believed age, parity, urinary tract infection, body mass index (BMI) score, constipation, psychological well-being, lifestyle factors, arthritic diseases, hysterectomy, and some gynecologic surgeries (2). The aim of study was investigation of the factors affecting urinary incontinence in Turkish women. Also, we determined the prevalence of urinary incontinence.

MATERIALS AND METHODS

1193 asymptomatic women between the ages of 15-49 from six health clinics of Denizli/Turkey were randomly sampled included in study. A survey consisting of 20 questions was made in participants. The questionnaire used in the research was composed of 2 parts: part 1; demographic data medical and obstetric history, part 2; urinary symptoms.

RESULTS

The mean age of participants was 31.22±8.53 years. 412 women (34.6%) reported urinary incontinence (UI). Women with UI reported stress UI symptoms (n=260; 63.1%), urge UI symptoms (n=152; 36.9%). In our study, 34.3% of participants had urgency, 19.5% of participants had nocturi, 15.5% with pollakuria and 42.5% with urinary tract infection (Table 1).

Table1: Distribution of urinary incontinence, symptoms and types

Variables	Total (n=1193)	
	n	%
Urinary incontinence	412	34.6
Urinary tract infection	508	42.5
Urgency	410	34.3
Pollokuria	187	15.5
Nocturi	235	19.5
Burning sensation of urine	212	17.5
Urge incontinence	152	36.9
Stress incontinence	260	63.1

There was a positive and weak relationship between age and incontinence rates (p=0.0001). There was a positive and weak relationship between BMI, age at first delivery, parity and incontinence rates (p=0.0001). Correlation between marital status and incontinence type and rates were found positive and weak (p<0.05). Smoking was only found to correlate with stress incontinence (p<0.01). It was seen that an increase in the incidence of stress incontinence with an increase of vaginal deliveries (p<0.001) (Table 2).

Table 2: Correlation between the factors affecting the incidence of incontinence

	Incontinence	Urge Incontinence	Stress incontinence
Age(year)	r=.161 p=0.0001	r=.139 p=0.0001	r=.231 p=0.0001
BMI(kg/m²)	r=.115 p=0.0001	r=.135 p=0.0001	r=.107 p=0.0001
Age at first delivery(year)	r=.123 p=0.0001	r=.108 p=0.001	r= .118 p=0.0001
Parity	r=-145 p=0.0001	r=.119 p=0.0001	r=.172 p=0.0001
Marital status	r= -.070 p=0.016	r=.076 p=0.009	r=.066 p=0.022
Smoking	r=.035 p=0.221	r= -.046 p=0.110	r=.026 p=0.022
Type of delivery	r=.061 p=0.056	r=-.055 p=0.086	r= -.093 p=0.003

INTERPRETATION OF RESULTS

The prevalence of urinary incontinence in our study was 34.6%. Urinary tract infections and urgency were found to be the most among the urinary problems in the participants. Stress incontinence was the most common among types of urinary incontinence. When the factors affecting incidence of incontinence are examined; it was found that older age, increased BMI, be younger age of first delivery, and be married and increased parity. Smoking and vaginal delivery were only increased of stress incontinence incidence.

CONCLUSIONS

There was a high prevalence of UI among in Turkish women. Age, BMI and obstetric events (previous vaginal delivery, be younger age of first delivery and parity) were the most prominent effect factors of urinary incontinence especially for stress UI. Urinary incontinence is more often see in Turkey. Because of women are marrying and having children at a very young age. So that we think that it is very important for women to be aware of urinary incontinence and to give the necessary training about the subject by health professionals to women's health.

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131 - AUDIT OF THE SHORT-TERM EFFICACY AND OUTCOME OF POLYACRYLAMIDE HYDROGEL (BULKAMID) FOR FEMALE STRESS AND MIXED URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Female urinary incontinence has a significant impact on the physical, psychological, social and economic well-being of the affected individuals. Recent controversies with midurethral meshes have prompted health professionals to look for alternatives. Urethral bulking agent have now gained some traction despite the comparable lower success rates and the need for repeat treatments. Polyacrylamide hydrogel (Bulkamid) appears to be in wide use in the clinical practice for various reasons. The aim of this audit is to evaluate the effectiveness of (Bulkamid) for SUI in our unit.

MATERIALS AND METHODS

It was a retrospective review of women who had Polyacrylamide hydrogel (Bulkamid) for the management of their SUI over the period of three years from 2015 to 2017. A total number of 60 patients were identified to have had Bulkamid treatment. Almost all the patients in our unit had the procedure under general anaesthesia. Gentamicin was given prophylactically prior to performing the transurethral injection. The patient is positioned on the operating table with slight hip flexion and the patient is prepared following standard procedure at the hospital unit. The urethra and bladder is emptied of urine first with small catheter. The Bulkamid injection is performed under endoscopic control using a single use Bulkamid cystoscope. The rotating sheath over the cystoscope, allow the working channel of the needle to rotate 360 degree to provide optimal access and visual control of the injection sites without moving the whole cystoscope.

Continuous saline flow is important to open the proximal urethra, by turning the in and out flow taps, to be able to identify the injections site. The Bulkamid syringe is inserted into the scope-working channel. The needle is advanced very slowly avoiding accidental injury the urethral mucosa. The bifid end of the needle should face the urethral lumen and the cystoscope angulation is no more than 5 degree (0-5 degree) to avoid deep injection. The ideal sub-mucosal injection site is 3, 6, 9 O'clock and within 1 cm distal to the bladder neck (proximal urethra). Slow speed Bulkamid injection is mandatory to avoid over injection at that site which subsequently results in tissue necrosis and expulsion of the Bulkamid 2-3 weeks later. To achieve good coaptation of the urethral wall, 1-2mls of Bulkamid are injected at 3 sites with no more than 0.5ml at each site.

RESULTS

Out of these 60 patients, 11 were excluded either due to the complexity of the case, which felt to fall beyond the scope of this audit, or difficulty obtaining the data. A total Number of 49 patients were eligible for inclusion, 3 had repeated procedure following the first unsuccessful (Bulkamid) injection

The mean age across the audit sample was 65.1 years (range from 26 to 94 years) . The mean parity was 2 (range from 0 to 4). The mean BMI was 28.8 (range from 21.3 to 40.2).

In group (1) a total number of 14 patients had Bulkamid as the primary treatment of their pure Stress urinary incontinence with an improvement rate of 58.3%. In group (2), 19 patients had Bulkamid for the management of their stress predominant mixed urinary incontinence with an improvement rate of 62%. Group (3) included 13 patients who had Bulkamid following a previous surgery for SUI with an improvement rate of 58.3%. 6 patients had lost their follow up during the study period, 2 from group 1, 3 from group 2 and 1 from group 3. The outcome measure used was mainly the subjective improvement and the International Consultation on Incontinence Questionnaire –urinary incontinence (ICIQ-UI) evaluated at 3 months interval following the procedure.

Only one patient reported worsening of her symptoms after the (Bulkamid) injection in our study. Three patients had repeated Bulkamid injection. There were no major life threatening complications reported. Voiding difficulty was reported in 4 patients , one on a repeat urodynamic study a year following the injection and three had short term Voiding dysfunction with successful TWOC 24 hours , 1 and 2 weeks following the procedure.

INTERPRETATION OF RESULTS

The majority of the patients in our study required only one injection to achieve subjective improvement only 3 had repeated Bulkamid injection . Out of theses 3, two had a previous TVT procedure and reported no change of their symptoms after the 2nd injection and one had it as a primary treatment with also no reported improvement. A further sub analysis of the type of the Incontinence surgery prior to Bulkamid injection in group (3) showed the following: 5 patients had TOT, 1 had TVT, 6 had colposuspension and one had both

colposuspension and TVT and there was no correlation between the type of surgery and the outcome. In our study, the patient selection and the sample size had probably a major reflection on the success rate.

CONCLUSIONS

(Bulkamid) appears to be a safe and effective treatment for SUI incontinence and stress predominant mixed urinary incontinence. In our study, the success rate of 59.5% was comparable to the quoted rate of (50-70%) by the British Association of Urological Surgeons. Bulkamid is currently perceived as a safer alternative to mesh procedures with more patients opting for this treatment option.

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132 - NEUTROPHIL-TO-LYMPHOCYTE RATIO PREDICTS THE 5-YEAR RECURRENCE OF BLADDER CANCER AFTER TRANSURETHRAL RESECTION OF BLADDER TUMOR

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INTRODUCTION AND AIM OF THE STUDY: The neutrophil-to-lymphocyte ratio (NLR) has been shown to be associated with a valuable prognostic marker in solid tumors. Non-muscle invasive bladder tumor is an early-stage tumor with high recurrence rates. We evaluated the risk factors, including NLR, of 5-year recurrence in patients with non-muscle invasive bladder tumor after transurethral resection of bladder tumor (TURB).

MATERIALS AND METHODS: In total, 193 patients with non-muscle invasive bladder tumor who underwent TURB between December 2001 and January 2007 were selected in this retrospective analysis. The NLR was calculated using complete blood counts determined before TURB. The NLR cut-off point was determined to be 2.09 for the 5-year recurrence. Univariable and multivariable logistic regression analyses were performed to evaluate the risk factors associated with 5-year recurrence after TURB.

RESULTS: The NLR cut-off point was divided into the high NLR group of 114 patients and the low NLR group of 79 patients. In univariate analysis, preoperative hemoglobin level, surgical time, multiple bladder tumors (≥ 2 locations), carcinoma in situ (CIS), postoperative BCG treatment, and high NLR group (> 2.09) were identified as independent prognostic factors. Multivariable logistic regression analysis indicated that multiple bladder cancer (odds ratio [OR] = 2.282, P = 0.007), CIS (OR = 0.328, P = 0.049), and high preoperative NLR group (OR = 1.883, P = 0.039) were significant predictive factors of 5-year recurrence after TURB.

CONCLUSIONS AND INTERPRETATION: The NLR was a significant predictor of recurrence for patients undergoing TURB. Our results suggest that high NLR before TURB surgery is an important predictor of recurrence in patients with high NLR during a follow-up period of 5 years after surgery.

133 - MULTI-COMPARTMENTAL SURGICAL MANAGEMENT OF TOTAL UTERINE AND RECTAL PROLAPSE IN A 31-YEAR-OLD WOMAN

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INTRODUCTION AND AIM OF THE STUDY

Total pelvic organ prolapse (POP) is prevalent in elderly women. In contrast, pronounced uterine and rectal prolapse in young women is rare, with quality of life being profoundly decreased. Such patients require an individual approach taking into account fertility preservation. The aim of the current work was to present a multi-compartmental surgical management in a 31-year-old woman who developed total uterine and rectal prolapse following her second child delivery.

MATERIALS AND METHODS = CASE STUDY

The patient, gravida 2, para 2, had a history of a spontaneous delivery followed by a Caesarean section. First signs of POP appeared 5 years after the second delivery and gradually worsened to total prolapse (POP-Q4) of the uterus and rectum at 30 years of age (Figures 1, 2A, and 2B). She also had a long-term history of irritable bowel syndrome, yet no connective tissue defect was confirmed. The patient wished that her treatement would re-establish normal anatomy, allow resumption of sexual activity and proper bowel function, as well as preserve fertility. Consequently, an innovative, multi-compartmental surgical approach addressing both rectal prolapse (posterior pelvic compartment) and uterine/vaginal prolapse (middle compartment) was undertaken.

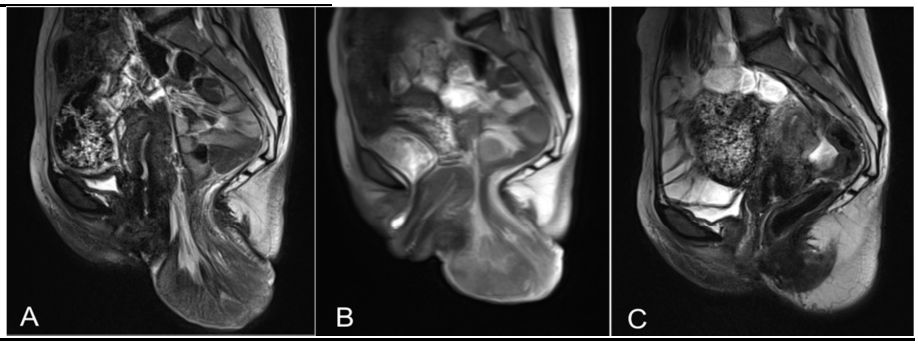

Fig. 1. Preoperative appearance.

Fig. 2. Pelvic magnetic resonance imaging (MRI) in the sagittal plane, T2-weighed scans. A. Prolapsed tissues at rest, preoperatively. B. Prolapsed tissues at strain, preoperatively. C. Postoperative appearance at 6-months follow-up.

In the first = vaginal step, posterior colporrhaphy enhanced with a fully resorbable SERASYNTH mesh (Serag-Wiessner, Naila, Germany, 6-mo. absorption) was applied. A fully resorbable mesh was chosen to avoid late erosion-bound complications in the posterior vaginal wall. In the second = laparoscopic step, a bilateral hysterosacropexy (HySa) using a non-resorbable CERESA implant (FEG, Dahlhausen, Germany) was conducted (Fig. 3). This bilateral implant was selected for its excellent results in re-establishing the physiological position of the uterus in the pelvis without any risks of erosion. Both implants were then stitched together using a Vicryl suture at the level of the posterior uterine wall. Further, the sigmoid and mesentery were laparoscopically fixed to the pelvic wall over the left external iliac vessels with vicryl sutures.

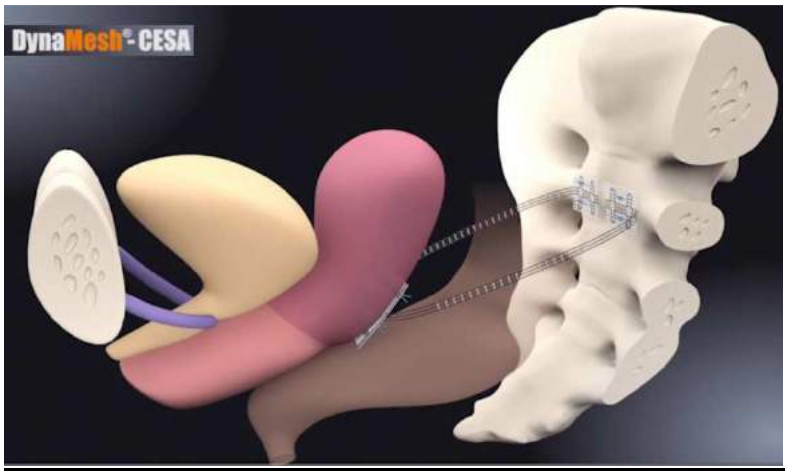

Fig. 3. Schematic diagram presenting the principle of HySa bilateral hysterosacropexy.

Fig. 4. Postoperative appearance at 6-months follow-up.

RESULTS

A complete elevation and proper positioning of the rectum and uterus were achieved thus fully re-establishing normal pelvic anatomy (as shown in Figures 2C and 4). No recurrence was observed over the 6-month follow-up. The patient declares normal sexual activity. In her opinion, bowel function has considerably improved.

INTERPRETATION OF RESULTS AND CONCLUSIONS

Thanks to a multi-compartmental approach and combined vaginal and laparoscopic surgical management, a full anatomical reconstruction as well as functional recovery are possible in women with total prolapse. Uterine conservation leaves hope for future pregnancies. The described constellation of surgical procedures warrants further studies.

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134 - THE VALUE OF CONSERVATIVE APPROACH IN THE MANAGEMENT OF TAPE COMPLICATIONS

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INTRODUCTION AND AIM OF THE STUDY

To present a case of slow recovery of voiding function post insertion of a mid-urethral tape. We consider this case didactic about the value of conservative approach in similar cases.

MATERIALS AND METHODS

A 54-year old menopausal lady attended the clinic complaining of stress urinary incontinence for the last two years. There was also occasional urge incontinence triggered by “key in the locker’’ conditions. The lady admitted using incontinence pads daily and having quit dancing and jogging due to this problem. No frequency or urgency were reported.

Her gynaecologic history was significant for one vaginal and two caesarean births and abdominal hysterectomy due to fibroids 14 years ago.

On clinical examination a hypermobile urethra was noted and prompt stress leakage with Valsalva was seen. No prolapse or urogenital atrophy was present. Ultrasound scan revealed a normal urinary bladder with minimal post-voiding residual. Urodynamics was organised and showed stress incontinence with some detrusor overactivity. The patient was counselled about the need to manage her main complaint which was stress incontinence with insertion of a retropubic tape and the likelihood of adding an anticholinergic tablet post-surgery to manage the overactivity of the detrusor. Consent was obtained.

RESULTS

A retropubic tape was inserted under general anaesthetic in an uncomplicated procedure. Retention of urine occurred the following morning after removal of the foley catheter. The patient was on cefuroxime and paracetamol post-surgery and a non-steroidal anti-inflammatory tablet (NSAID) was added. Trial of voiding was repeated six days later. Retention of urine happened again. No pathological findings were seen on examination. The patient complained of no pain or other symptoms. Cefuroxime was switched to norfloxacin and the NSAID was continued. Urine sample was clear for infection. Dilatation of the urethra and downward pressure with Hegar’s dilators were applied in the clinic.

Foley catheter was removed ten days later and voiding occurred. Unfortunately, the patient started complaining of deviated urine stream and sudden episodes of unprovoked urinary incontinence of large amounts few times per week. No stress leakage was mentioned. She felt miserable and unhappy with the operation. The patient was advised to reduce fluid intake, which she found particularly difficult and continue with her pelvic floor exercises. Anticholinergics were discussed but the patient was not keen.

The symptoms persisted with reducing intensity for four months. On urogynaecologic follow-up including ultrasound assessment the tape was found in the correct position under the mid-urethra. No signs of haematoma or other pathology were seen. The patient was once again reassured about the temporary nature of her ailments.

Six months post-op the patient is happy with the results of the operation. She uses a step to keep her feet high during voiding to avoid wetting her legs. She mentions no incontinence episodes in the last two months. She has reduced fluid intake and never took anticholinergics.

INTERPRETATION OF RESULTS

We describe a case of a retropubic tape complicated by urinary retention for almost two weeks immediately post-op and by skewed voiding stream plus urge incontinence for four months after the operation. Full recovery was achieved by conservative approach although the patient initially requested removal of the tape.

CONCLUSIONS

Proper preoperative assessment, careful counselling about the recommended operation, management of the expectations, sympathetic approach when complications occur and of course full investigation of the patient at each step during the recovery process are of paramount importance in urogynaecologic patients. The value of conservative approach is proven in this case.

135 - COMBINATION OF NDYAG AND ERYAG LASERS TREATMENT OF LICHEN SCLEROSUS ET ATROPHICUS – RANDOMIZED CONTROL TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Lichen sclerosus (LS) is very unpleasant disease which is significantly reducing the quality of life of suffering patients. LS is a chronic inflammatory dermatosis that results in white plaques with epidermal atrophy and scarring. The etiology and pathogenesis of lichen sclerosus is unknown but may include genetic, infectious, environmental, and hormonal factors Inflammation and altered fibroblast function in the papillary dermis leads to fibrosis of the upper dermis. Genital skin and mucosa are affected most frequently. Most common symptoms are itching, pain, soreness, burning, dyspareunia and dysuria all strongly interfering with sexual function and patient's self image. Existing treatment options with systemic and topical medications (oral retinoids, topical steroids) have some drawbacks and recently the use of laser was proposed for treatment of LS.
The purpose of this clinical study was to evaluate the use of new laser treatment of lichen sclerosus (LC) and to compare it with topical steroids (TS) therapy. The main objectives of our study were to assess the efficacy and safety of this novel laser therapy to see if it could become a minimally invasive alternative for this indication.

MATERIALS AND METHODS

This study was performed between January 2016 and March 2017 in two medical centres: Juna Clinic and University Medical Centre Ljubljana, Slovenia. Female patients older than 18 years and with histologically proven lichen sclerosus were recruited from Division of Gynaecology Clinic at University Medical Centre Ljubljana. Patients were randomized into study and control groups. Study group received three laser treatments with the interval of 14 days, while the control group was receiving topical corticosteroids for 3 months (in M1 twice a day, in M2 once a day and in M3 3 times per week). Laser treatment consisted of combination of non-ablative 1064nm NdYAG using super long (5 seconds) Piano pulses and of fractional ablative 2940 nm ErYAG. The improvement was assessed with: biopsies of every patient before and 3 months after the end of the therapy; with grading of before and after pictures on 4 grade scale, with VAS (1-10) for dyspareunia and itching and for pain during the treatment. Follow-ups were performed at 1, 3 and 6 months after the end of the therapy

RESULTS

40 patients were randomized into study (laser) group and control (corticosteroid) group with 20 patients each. All 20 patients from laser and 19 patients from control group completed the treatments and were followed up for 1, 3 and 6 months (laser group) and for 1 and 3 months (control). VAS score for dyspareunia in laser group changed from 6.60 to 0.55 (1 mo), 0.50 (3 mo) and 1.88 (6 mo), while itching score went from 7.15 to 1.05, 0.75 and 1.81, respectively. Treatment discomfort was very low (average score of 1.5). Control group had dyspareunia reduced from 5.50 to 2.64 (1 mo) and 3.27 (3 mo). Similarly itching in control group reduced during the treatment from 8.56 to 4.79 (1 mo) and 5.47 (3 mo). Blind assessment of before and after clinical pictures made by two independent evaluators showed statistically significant difference (chi-square=4.47, p=0.035) between groups – there were 75% of correct answers in laser group and 36% in control group. Sexual function significantly improved in laser group (only 10% of patients complained of dyspareunia at 3 mo FU in comparison of 55% at baseline and 15% of anorgasmia vs. 40% at baseline) but not also in control group (dyspareunia: 67% at 3 mo FU and 44%

before; anorgasmia: 40% at 3 mo FU and 39% before).
Biopsies showed the presence of the LC in 100% of patients in laser group and 89% in control group at the baseline; and in 50% in laser group and 60% in control group at 3 mo FU.
All patients from laser group were very satisfied with results at 3 mo FU, while the control group had 13% very satisfied and 33% satisfied patients; 27% were somehow satisfied and 27% not satisfied. At 6 mo FU 69 % of patients in the laser group were very satisfied, 25 % satisfied and 6 % somehow satisfied, while in control group 33 % were very satisfied and 67 % somehow satisfied. Laser treatment discomfort was very low (at Tx1: 0.65, at Tx2: 0.2 and at Tx3: 0.0). The adverse effects were all mild and transient.

INTERPRETATION OF RESULTS

Combined laser treatment using super long non-ablative 1064nm NdYAG and fractional ablative 2940 nm ErYAG lasers seems promising minimally invasive method for lichen sclerosus as all measured parameters showed better results after laser treatment than after topical steroids, which are considered golden standard for the treatment of LS.

CONCLUSIONS

Our study is the first randomized control trial for assessment of the efficacy and safety of this combined NdYAG and ErYAG lasers treatment of LS in comparison to topical steroids. The results of laser therapy for lichen sclerosus demonstrated good efficacy in the improvement of lichen sclerosus and minimal patient discomfort during the treatment, with no adverse effects. In comparison with control group laser showed better and longer lasting improvement.
However, additional studies with larger number of patients and longer follow up times are needed to fully confirm the findings of our study.

136 - THE EARLY EXPERIENCE WITH SINGLE INCISION SLING (ALTIS) FOR STRESS URINARY INCONTINENCE IN A SINGLE CENTER- A PILOT STUDY AT 6 MONTHS FOLLOW UP

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INTRODUCTION AND AIM OF THE STUDY

The aim of this study is to evaluate the efficacy and complication rates of Altis single- incision sling for treatment of stress urinary incontinence (SUI) at 1 month and 6 months follow up.

MATERIALS AND METHODS

In this retrospective, single center study, we included 18 patients with a history of pure SUI or mixed urinary incontinence with predominantly SUI symptoms who had a positive cough stress test or urodynamic diagnosis of SUI. All patients underwent Altis Single Incision Sling between August 2017 and December 2017.

Patient characteristics such as age, races, parity, BMI, menopausal status were recorded. Patients were reviewed at 1 month and 6 months post-surgery.

Primary outcomes include the objective and subject cure rates, confirmed by negative stress test and patient's reported improvement of SUI symptoms respectively post procedure. Complications studied include intraoperative complications e.g. bladder perforation, bleeding requiring transfusion and postoperative complications e.g. pain, tape erosion, voiding disorders, infection etc.

RESULTS

The mean age of patients was 59.3 ± 12.1, with a mean parity of 2.5 ± 1.4. 88.9% (16/18) had normal vaginal delivery. 3 out of 18 patients had Altis surgery alone while the rest had concomitant procedures such as vaginal hysterectomy and pelvic floor repair. The average procedure duration for Altis surgery was 16.7 ± 6.0 minutes.

17 out of 18 patients were followed up at 1 month and 14 were seen at 6 months post-surgery. 12 underwent UDS at 6 months post-op. The subjective cure rate was 82.4 % (14/17) at 1 month and 100% (14/14) at 6 months follow up visit. The objective cure rate was 83.3%.

11.8% (2/17) had de novo urge urinary incontinence at 1 month. 2 patients had urinary tract infection at 6 months visit which was treated with antibiotics.

There were no recorded complications of voiding difficulty, tape erosion, pain, reoperation or re-admission. There were no significant perioperative complications such as bladder perforation, major bleeding requiring transfusion, prolonged catheterization or hospital stay.

INTERPRETATION OF RESULTS

Based on our results, the cure rate for Altis SIS was comparable to similar studies done and has low complication rates. It is hence a safe and effective treatment for SUI.

CONCLUSIONS

The Altis Single incision sling was a safe and effective treatment option for female patients with SUI. However, data for longer follow up duration is needed to evaluate its long-term treatment outcome and complications.

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137 - EXAMINING THE RELATION BETWEEN EXERCISE HABITS AND POSTPARTUM DEPRESSION IN YOUNG WOMEN

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INTRODUCTION AND AIM OF THE STUDY

Postpartum depression (PPD) has a 13-19% prevalence that can be seen in women within 12 months of birth. Physical activity has many health benefits for women in the postpartum period, including improved mood, weight loss, and cardio respiratory fitness. Postpartum physical activity is also associated with decreases in anxiety, depression. The aim of our study is to examine the depression seen in postpartum period in young women and its relation to exercise habit.

MATERIALS AND METHODS

One hundred forty-two women between the ages of 19 and 42 who only gave birth during the past year were included in the study. Socio-demographic and obstetric data were collected and exercise habits were interrogated with 9 open ended questions. The occurrence of depression was determined by the Edinburgh Postnatal Depression Scale (EPDS).

RESULTS

The average age of participants was 29.65±4.95 years. Postpartum depression rate was found to be 15.5%. It was found that 95.1% of the participants stated that exercise should be done during pregnancy period, 15.5% who exercised regularly, 61.3% who has intention to start exercising and 20.4% who had exercise in prenatal period and 78.2% who said that they needed exercise. The difference between the rates of PPD in normal and cesarean delivery was not significant (p> 0.05). There was no difference between live births and PPD rates (p> 0.05). There was a statistically significant decrease in PPD rate (p <0.001) compared to those who did not exercise before birth (86.4%) and those who did exercise before birth (13.6%). PPD rate was found significantly higher in those who did not exercise regularly (81.8%) and those who did (18.2%), currently (p <0.01).

Table 1. Analysis of PPD-related factors

Variables	**PPD rates n (%)**	**p value**
Vaginal delivery	58 (41.1)	
Caesarian delivery	83 (58.9)	0.75
women who pre-natal exercise	19 (13.6)	
women who don't have pre-natal exercise	122 (86.4)	0.001*
women who continue post-natal exercise	25 (18.2)	
woman who does not exercise post-natal	116 (81.8)	0.001*

*Chi-Square Test:

INTERPRETATION OF RESULTS

As a result of our study, the percentage of PPD cases was found to be 15.5%, similar to the rates in the literature. 95.1% of the participants stated that exercise should be done in pregnancy. It was seen that most of them thought that they wanted to exercise or needed to do exercise. It has been observed that the rate of pre-natal exercise decreased post-natal. However, the prevalence of PPD was seen less frequent in women who exercising pre-natal. In addition, the frequency of PPD was found to be lower in those who regular exercise in the post-partum period. This suggests that women neglected the exercise that would reduce the incidence of PPD. Continuing exercise in post-natal will probably decreased PPD rate even more. In addition, it has been found that vaginal and cesarean delivery, with different effects on the general health status of women and number of giving birth is not related to PPD frequency.

CONCLUSIONS

In conclusion, this study suggests that PPD rate decreases as the women exercising both pre-natal and post-natal period. Sexton et al. (2012) found that engagement in prenatal exercise predicted PPD symptom improvement. Physical exercise may be an important clinical recommendation, as it may improve mood. In

addition, women mostly think that exercise should be done during pregnancy and they regard exercise as a necessity in the postpartum period.

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138 - NATIVE TISSUE REPAIR FOR VAGINAL PROLAPSE: PROSPECTIVE EVALUATION WITH FOLLOW-UP AT 5 YEARS

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INTRODUCTION AND AIM OF THE STUDY

A variety of surgical approaches have been developed and optimized to enhance durability, minimize risks, and shorten recovery of Pelvic organ prolapse(POP) surgery with mixed results and many emerging related issues. An extensive review of medical literature shows that there are currently no proven benefits in terms of functional outcomes with the use of transvaginal mesh, but on the contrary, mesh use is associated with more adverse events and consequently potential reoperations (1-2). Recent studies have nevertheless shown that the risk of POP recurrence after native tissue repair, requiring reoperation, is lower than previously estimated, being closer to 10% rather than 30% (3).The attention to patient's satisfaction after surgery is currently high, therefore the debate on outcomes of native tissue repair versus prostetic surgery is extremely actual. The goal of this study is to assess the anatomical and functional outcomes after native tissue repair with a mean follow-up of 5 years.

MATERIALS AND METHODS

From June 2011 to May 2014, a cohort of 478 women, admitted at our secondary referral Uro-Gynaecological Unit in order to undergo surgery, were recruited. All patients with a symptomatic multi-compartment prolapse POP-Q stage≥ 2 (according to the Pelvic Organ Prolapse Quantification system) are eligible for the study. A standardized questionnaire regarding symptoms of prolapse and urinary or anal incontinence was administered. The pre-operative work-up included for each patient: a) physical examination according to Pelvic Organ Prolapse Quantification system (POP-Q), b) conventional urodynamic study. The surgical procedure involves: vaginal hysterectomy, high closure of the peritoneum, colposuspension according to Mc Call modified, or Sacrospinous fixation, reconstruction of pericervical ring to reestablish continuity of the anterior and posterior vaginal fascia at the vaginal apex, anterior colporrhaphy according to Lahodny (1st step), posterior repair according to Richardson, perineal body reconstruction.

We measured subjective and objective outcomes by participant in a clinic review appointment at baseline, every six months for the first year and then annually.

Anatomic results of POP surgery was established by POP-Q system. Stages 0 and 1 for the apical, anterior, and posterior compartment were considered an optimal outcome after surgery.

The International Continence Society Questionnaire short form (ICSQ-SF) was used to detect urinary symptoms. The Patient Global Impression of Improvement (PGI-I) was administered at 5 year follow up. A PGI-I ≤2 score detects patient satisfaction. Statistical analysis of the results was performed using McNemar's test for correlated (before-after) proportions, resulting in the significance level indicated in tables.

RESULTS

A total number of 478 patients underwent a standardized procedure, but a complete 5-years follow-up is available for 286 of them. Clinical baseline characteristics of the patients and POP-Q outcomes are reported in tab. 1.

Functional symptoms (urinary incontinence-UI, voiding dysfunctions, anal incontinence-AI) were assessed before surgery and after a 5-years time (tab. 2)

The POP-Q cure rate was 87.77%. Anatomical Prolapse recurrence occurred in 35 patients (12.2%): 30 patients had stage 2 (at level of the hymen), and 5 stage 3. For patients required further surgery.

The data on tab.2 show an overall improvement both in filling bladder symptoms that in emptying symptoms.

Pre-operatively symptoms caused by pelvic organs prolapse and urinary incontinence caused great discomfort to the patients but at the 5-year follow-up the PGI-I questionnaire shows that 254/286 patients (89%) are satisfied of very satisfied of surgical treatment (PGI-I ≤2). The ICS-SF score is unchanged before/after surgery (8.82versu8.5)

Table 1: Patients data (n=286)

Age (mean ± SD)	64.2 ± 8.5	Anatomic recurrence at 5 years after surgery	
Parity (mean ± SD)	3.2 ± 1.4	Stage 2	30 (10.5%)
BMI (mean ± SD)	27 ± 3.3	Stage 3	5 (1.7%)
Diabetes	46 (16%)	Site of recurrence	
Hypertension	108 (38%)	Anterior	26 (74%)
Delivery		Anterior and apical	5 (15%)
spontaneous vaginal (61.53%)	176	Anterior-apical-posterior	4 (11%)
instrumental (35%)	100	Further surgery	4 (1.4%)
Caesarean section	9 (3%)		
Newborn weight (mean ± SD)	3743 ± 488		
Physiological menopause (79%)	226		
Pre-surgery POP-Q stage			
Stage 2	50 (17.5%)		
Stage 3	171 (60%)		
Stage 4	65 (22.5%)		

Tab.2 Functional symptoms before/after surgery

	Before surgery	After surgery	p
UI – stress	80 (27%)	48 (17%)	p<0.02
De novo UI - stress	-	14 (5%)	
UI – urge	37 (13%)	28 (9.7%)	n.s.
De novo UI - urge	-	11 (4%)	
UI – mixed	43 (15%)	17 (6%)	p<0.0001
Voiding dysfunctions	74 (26%)	22 (8%)	p<0.0001
Anal incontinence	28 (10%)	13 (4.5%)	p<0.0001

CONCLUSIONS

Given the new goals of pelvic prolapse surgery (absence of bulge symptoms or rate of retreatment), the outcomes of native tissue vaginal POP repair are better than previously thought, with a high patient satisfaction rate and acceptable reoperation rates (2).

The good anatomical and functional results that we obtained are strictly related to the strength points of native tissue repair: restoration of the apical support and restoration of the continuity of the pubocervical and rectovaginal septum with the apical support, reconstruction of the perineal body.

The choice of prosthetic vaginal surgery rather than native tissue surgery needs to be made on a case-to-case basis, according to the individual variables, expectations and anatomical defects. Counseling on risks, benefits and alternatives to pelvic floor surgery is the key for a personalized surgical choice and for the improvement of patient satisfaction

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139 - POP REPAIR WITH CALISTAR A AND CALISTAR S: A SINGLE CENTER RETROSPECTIVE ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

This study aimed to evaluate anatomic and functional outcomes after transvaginal mesh surgery in patients with pelvic organ prolapse (POP), comparing light meshes with ultralight meshes. The objective cure rate and associated complications were also investigated.

MATERIALS AND METHODS

Characters of patients*	Total (N=29)	Total (N=30)
Type of mesh	CALISTAR A	CALISTAR S
Age	64	61,3
Bmi**	24,85	25,3
Years of Menopause (N=26)	14,85	12,75
Median N° Pregnancy	3 (1 – 7)	2 (1 – 4)
N° Para	2,28	2,16
Sum of others risk factors***	9,30	7,26

*Values indicated as MEDIA or N(%); **Weight in Kg/Height in m² ***BPCO, neurological desease, fetus >4000g, Smoke/Alcool, Diabetes, Other Surgical Procedures, Constipation, Cardiovascular deseases, risky work.

We selected patients with symptomatic POP. Women with no contraindications to vaginal mesh repair, were treated using two types of mesh: Calistar A and Calistar S both developed for anterior apical prolapse repair. Calistar A is a light mesh made by polipropilen monofilament, syntetic and unadsorbable, it weight less than 16 g, design of 6-mm orifices in the central portion of implant, posterior fixation arms with special design for efficient attachment to De Lancey´s Level I. Calistar S is an ultralight mesh, 16g/m2 at central area, repair reinforcement for De Lancey Level I & II and differential elasticity index at longitudinal and transversal axis. All subjects were informed about pro and contra of mesh use. Follow up lasts 42 months in Calistar A group and 12 months in Calistar S group.

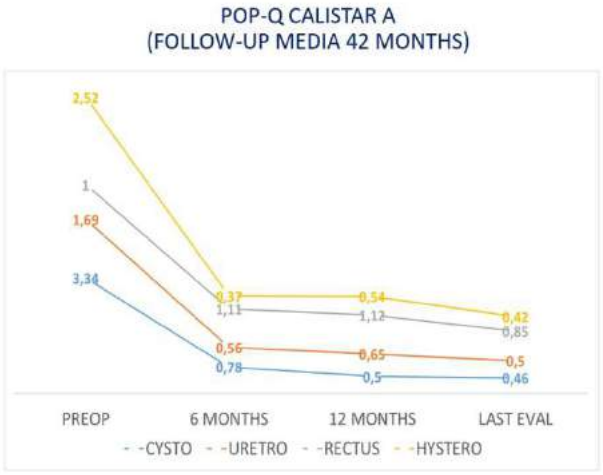
RESULTS

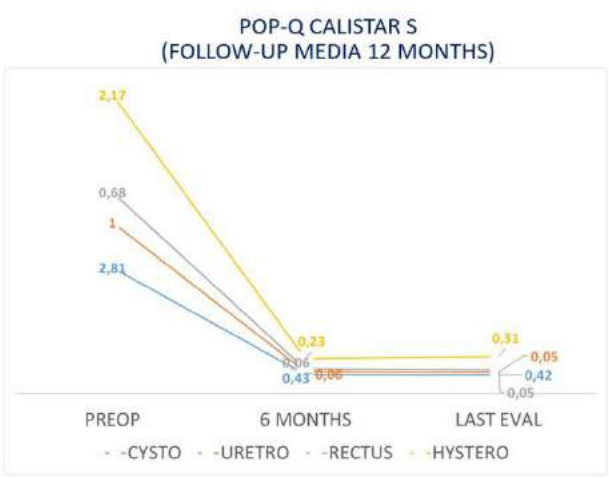
Risk factors for prolapse such as BMI, age, parity, number of pregnancies, years of menopause are depicted in table 1.

A total of 59 patients completed the planned follow-up examinations. We analyzed primary outcomes (table 2 and 3): POP-Q bulge repair is similar in the two groups: all 59 patients in the two groups had bulge before surgery; only 3 patients in Calistar A had bulge after operation (all with symptoms), one in Calistar S group (asymptomatic).

In the Calistar A group three relapses occurred (two of them in the first year, the last at 18 months), instead of none in the Calistar S group. A partial suburetral expotition occurred in a woman two weeks after from the intervention, due to excessive efforts. It was repaired without any complication.

Regarding urinary outcome, 10 patients in Calistar A group suffered from IUS before surgery, 7 patients after surgery (whom 2 de novo, n=1 TOT necessary). In Calistar S group n=17 women suffered from IUS before surgery versus n=5 after (whom 1 de novo). All side effects are reported in table 4.





SIDE EFFECTS

	CALISTAR A	CALISTAR S
RELAPSES	- N° 1 Colpohysterectomy because of prolapse - N° 1 failed (and out from follow-up) - N° 1 relapse (18° month)	NO RELAPSES
IUS	- n°2 IUS DE NOVO (n° 1 TOT necessary, that had solved symptoms)	- n°1 slight IUS de novo
EROSIONS	NO EROSIONS	- n° 1 Suburetral exposition after 2 weeks (patient admitted excessive efforts)
OTHERS	- n°1 Slight pelvic pain, in case of severe effort	- n° 1 bulge symptoms persistence

CONCLUSIONS

In our study the use of the single-incision mesh for POP repair resulted in high success rates for anterior and apical prolapse correction. The mesh exposure rate was lower than that in other previous reports with the use of the Perigee and Apogee systems (12.8 % in the hysterectomy group) [1], others Prolift (12.7 %) in Collinet et al. [2] and 10.2 % in meta-analysis comparing the full range of mesh device types in Jia et al. [3]. Surgeon experience influences the surgical result, so vaginal mesh surgery should only be offered by experienced vaginal surgeons with proper training in mesh surgery. It could be a valid alternative to traditional fascial surgery, expecially in patients with severe prolapse.

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140 - ADVERSE EVENTS FOLLOWING TRANSVAGINAL MESH SURGERY FOR ANTERIOR PELVIC ORGAN PROLAPSE (SURELIFT®): A DESCRIPTIVE STUDY

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INTRODUCTION AND AIM OF THE STUDY

Introduction

The use of polypropylene mesh during surgical procedures to treat pelvic organ prolapse (POP) has been the subject of scrutiny by governmental health care regulators. Recent publication at Lancet [1] and FDA releases show the needs to use mesh restrictively. Anterior compartment repair presents suboptimal results for laparoscopy[2], vaginal approach must be evaluated specifically.

Aim of study

Aim of this study was to evaluate the incidence of mesh-related complications and to describe the posterior evolution.

MATERIALS AND METHODS

A descriptive continuous study was conducted with analysis of a prospectively collected database. Demographic data, symptoms and POPQ findings have been collected. Indications for surgery (anterior Surelift®) were: cystocele ≥ III, recidivate prolapse or paravaginal defect. These could be done with concomitant vaginal histerectomy (VH) or as uterine preserving operation. Operative and peri-operative information were collected.

Primary outcomes were immediate postoperative complications, subsequent readmissions and later postoperative complications. Patients were visited at 1 months, 6 months, 1 year and 2 years after surgery.

Statistical analyses were performed using the Stata© (Version 14.0. College Station, Texas: StataCorp LLC). Means (±sd) and medians (quartiles) by asymmetric distribution were used to describe by years. Binary and multivariate logistic regression analysis was used to identify advers effects and related factors.

RESULTS

Descriptive study	
Mean age (±sd)	67.0 (±9.5)
Previous Surgery n(%)	53 (30.6)
Associated Clínic IU n(%)	83 (47.9)
Associated Urodynamic IU n(%)	60 (34.7)

Associated Uterine Prolapse ≥2 n(%)	87 (50.3)
Locoregional Anesthesia n(%)	155 (89.6)
Postoperative variables	
Days of admission (±sd)	2.23 (±1.2)
Days of bladder catheterization (±sd)	2.89 (±1.1)

			esults
Intraoperative	Bladder injury	4 (2.31)	8 of 174 (4.6%)
	Bleeding complication	4 (2.31)	
Early postoperative (first month)	Urinary retention	5 (2.89)	27 of 174 (15.5%)
	Acute cystitis	12 (6.94)	
	Vaginal infection	1 (0.58)	
	Vaginal vault hematoma	9 (5.20)	
Late postoperative	Vaginal extrusion	29(16.76)	43 of 174 (24.7%)

	Chronic pain	6 (3.47)
	Recurrent cystitis	6 (3.47)
	Urinary retention	2 (1.16)

Long-term results	(n and % of defects ± 2nd degree)		
6 months	**Anterior defect**	**Apical defect**	**Posterior defect**
	3 (1.72)	3 (1.72)	17 (9.83)
1 any	**Anterior defect**	**Apical defect**	**Posterior defect**
	3 (1.72)	5 (2.87)	29 (16.67)
2 anys	**Anterior defect**	**Apical defect**	**Posterior defect**
	3 (1.72)	4 (2.30)*	27 (15.51)*

INTERPRETATION OF RESULTS

Global number of complications was high (34.9%), although most of them were extrusions (90% asymptomatics) and acute cystitis (treated with phosphomycin 3g 2 doses).

Chronic pain and recurrent cystitis resulted the complications that most affect the long-term quality of life, and affected at 12.94% of our patients.

CONCLUSIONS

As shown in the literature, it is important to maintain the restriction on the use of vaginal meshes, selecting the most severe and recurrent cases.

In these selected cases, it is necessary to inform about the risks that may affect the quality of life in the long term.

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141 - VAGINAL HYSTERECTOMY -HAS IT HAD ITS DAY

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Introduction

Vaginal hysterectomy has traditionally been the management of choice for uterine descent. Recently fellowships have become more specialized with regard to surgical approaches. In the literature there has been a shift towards uterine preservation. Surgical training and proficiency affect the management options available for uterine prolapse.

Aim

The aim of this study was to assess Urogynaecologists surgical training and proficiency with regard to various surgical techniques for uterine prolapse. To assess factors which influence decisions for type of surgery, management of complications, techniques used and training provided.

Method

An electronic questionnaire was sent to all European Urogynaecology Association (EUGA) and International Urogynaecology Association (IUGA) members by email or via the e-zine respectively. It constituted 33 questions, which were divided into four categories. The categories included demographics, training, surgical proficiency and selection and technique.

Results

A total of 471 responded. 70% (328) identified as Urogynaecologists, of note 58% dedicate more than fifty percent of their working week exclusively to urogynaecology. 251 (53%) had done a fellowship with the majority (86%) in urogynaecology and pelvic floor reconstruction.

63% highlighted a preference for uterine removal in the presence of uterine descent. The main factors for influencing the decisions were patient preference, patient age and prolapse score. 94% are proficient in performing vaginal hysterectomy and repair; there was a broad range in terms of proficiency and numbers performed per year for other surgical procedures. Specifically in terms of vaginal hysterectomy two thirds of respondents perform 30 of less procedures per year, with 45% quoting a reduction in the number compared to 5-10 years ago.

372 felt that 10-30 cases were required to become proficient and a similar number was required to maintain competency. 336/471 felt that trainees should be competent in performing vaginal hysterectomy prior to completing general training in O&G.

Conclusion

Vaginal hysterectomy stills form the cornerstone for the management of vault prolapse. The decision process is influenced by multiple factors including surgical training. Consideration needs to be given to training and maintaining proficiency once achieved

142 - SEXUAL FUNCTIONS AND QUALITY OF LIFE OF TURKISH WOMEN OVER 50 YEARS ATTENDING A UROGYNECOLOGY CLINIC WITH LOWER URINARY SYMPTOMS AND/OR PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Lower urinary tract symptoms and/or pelvic organ prolapse may lead to sexual dysfunction and have an adverse effect on quality of life. As women age, postmenopausal state may have an additive adverse effect on sexual functions and quality of life. Also there are only limited studies regarding sexual practices of older Turkish women. Our aim in this study is to determine the rate of coital activity among Turkish women older than 50 years presenting with urinary incontinence and/or pelvic organ prolapse to urogynecology clinic, evaluate their sexual functions and quality of life.

MATERIALS AND METHODS

The files of women over 50 years applying to Istanbul Faculty of Medicine Department of Obstetrics and Gynecology Division of Urogynecology with urinary incontinence and/or pelvic organ prolapse between years 2013-2018 were retrospectively analyzed. The demographic variables including age and marital state, urogynecologic symptoms, type of urinary incontinence, and coital activity were noted. Women were separated into 3 groups according to their age as 50-59 years (Group 1), 60-69 years (Group 2), and 70 and over (Group 3). Female Sexual Function Index and Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire were used for the evaluation of sexual functions and King's Health Questionnaire was used for the evaluation of quality of life. Statistical analysis was performed using SPSS 21.0 for IBM. The data were expressed as mean ± standard deviation. Mann-Whitney U test, Kruskal Wallis Test, chi-square test were used for comparison of the 3 groups.

RESULTS

1256 women over 50 years of age applied to Istanbul Faculty of Medicine Department of Obstetrics and Gynecology Division of Urogynecology and were evaulated between 2013 and 2018. The mean age of the women was 62.0 +/- 8.7 (50-92). 565 women were 50-59 years of age (Group 1), 440 women were 60-69 years of age (Group 2), and 251 women were ≥ 70 years of age (Group 3). The marital state and the coital activity of the women in the 3 groups are summarized in Table 1. There was a significant difference between the three groups in terms of having a partner and having coital activity. 13.5% of the women in Group 3 had coital activity. The diagnosis at presentation, presence of incontinence and type of incontinence of the three groups are summarized in Table 2. As women aged, the number of women having pure stress urinary incontinence (SUI) decreased whereas the number of women having pure urge incontinence increased which was statistically significant. When the FSFI results of the groups were compared, there was a significant difference between Group 1 and 3 and Group 2 and 3 regarding lubrication and orgasm domains. There was no significant difference between the groups in terms of total scores and sexual dysfunction. There was no significant difference between Group 1 and 2. There was no significant difference between the three groups regarding PISQ-12 and PISQ-Long scores. When the King's Health Questionnaire scores were compared, there was a significant difference between Group 1 and 2 and 3 in incontinence impact, role limitations, physical limitations, social limitations, personal relations domains and the total scores. The quality of life was significantly more adversely affected in Group 1 and 2 when compared to Group 3. When the groups were compared according to the effect of type of incontinence on FSFI and KHQ, no significant difference was observed between FSFI scores of women with SUI, UUI, and MUI in 3 groups, but there was a significant difference in KHQ results according to type of incontinence in 3 groups and among all women; quality of life was more adversely affected in women with UUI and MUI.

INTERPRETATION OF RESULTS

Women suffering from urinary incontinence, LUTS and/or pelvic organ prolapse may have lower quality of life and suffer from sexual dysfunction more when compared with the general population [1]. There are only few studies evaluating the effect of LUTS, urinary incontinence or pelvic organ prolapse on sexual functions in Turkish women. In addition, the sexual practices of women including coital activity is usually ignored during evaluation especially in elderly women suffering from urinary incontinence or pelvic organ prolapse. However, sexual practices are quite important especially for choosing the type of pelvic organ prolapse surgery.

Cayan et al evaluated prevalence of sexual dysfunction and urinary incontinence and associated risk factors in 1217 Turkish women [2]. The prevalence of FSD and UI was 52.5% and 14.6%, respectively. Menopause and FSD were the significant risk factors for UI.

In our study, we evaluated the rate of sexual dysfunction, coital activity in elderly women presenting with urinary incontinence, LUTS and/or pelvic organ prolapse. We divided the women into 3 decades according to age and compared their sexual functions. Most women (77.6%- 85%) suffered from sexual dysfunction in 3 groups. As women aged, there was a significant decrease in the rate of women having coital activity. This was in proportion to availability of a partner. Therefore having a partner is an important factor for the continuation of coital activity in elder women despite urogynecologic symptoms. 13.5% of Turkish women over 70 years of age applying to our department had coital activity; therefore this point must definitely be addressed during patient evaluation and for the choice of appropriate surgery for pelvic organ prolapse.

As women aged, there was a significant problem with lubrication and orgasm in FSFI domains when compared with younger women. Therefore although menopause and urogynecologic symptoms actually have an adverse effect on sexual functions, this adverse effect increases as women age. However the quality of life was more adversely affected in younger women when compared to older women. This might be due to the fact that elderly women may be more inactive and therefore do not suffer from symptoms as much as younger women.

When the effect of various types of incontinence on FSFI scores and KHQ scores were evaluated, UUI and MUI had more adverse effect on KHQ scores across all 3 groups. However, there was no significant difference between FSFI scores. This might be due to the unpredictable symptoms related to urgency and UUI.

CONCLUSIONS

LUTS and/or pelvic organ prolapse is associated with sexual dysfunction in Turkish women over 50 years of age. Orgasm and lubrication are more adversely affected as women age. UUI and MUI have a more adverse effect on quality of life, but the effects of different types of UI are similar on sexual functions. Despite these problems, elderly women continue coital activity if they have an available partner. Therefore, assessment of coital activity is important in the evaluation of elderly Turkish women suffering from pelvic organ prolapse and/or LUTS and choice of treatment.

TABLES

Table 1: The mean age, marital state, and coital activity of the 3 groups.

	Group 1 (50-59 years) (n=565)	**Group 2 (60-69 years) (n=440)**	**Group 3 (≥ 70 years) (n=251)**
Mean Age	54.3 ± 2.9 (50-59)	64.2 ± 2.9 (60-69)	75.5 ± 4.4 (70-92)
Marital state			
Married	475 (84%)	310 (70.5%)	119 (47.4%)
Single	16 (2.8%)	18 (4.1%)	11 (4.4%)
Widow	61 (10.8%)	103 (23.4%)	119 (47.4%)
Divorced	13 (2.3%)	9 (2%)	2 (0.7%)
Coital activity			
Yes	386 (68.3%)	169 (38.4%)	34 (13.5%)
No	179 (31.7%)	271 (61.6%)	217 (86.5%)

Table 2: Diagnosis at presentation and type of urinary incontinence in the three groups.

	Group 1 (50-59 years) (n=565)	Group 2 (60-69 years) (n=440)	Group 3 (≥ 70 years) (n=251)	$P_{Group1-2}$	$P_{Group1-3}$	$P_{Group2-3}$
Diagnosis						
LUTS only	382 (67.6%)	239 (54.3%)	142 (56.6%)			
Prolapse only	49 (8.7%)	58 (13.2%)	34 (13.5%)			
Prolapse+ LUTS	134 (23.7%)	143 (32.5%)	75 (29.9%)			
Incontinence	434 (76.8%)	311 (70.7%)	185 (73.7%)	0.259	0.039	0.047
SUI	79 (14.0%)	62 (14.1%)	23 (9.1%)			
UUI	97 (17.2%)	83 (18.9%)	84 (33.5%)			
MUI	258 (45.7%)	166 (37.7%)	78 (31.1%)			

Table 3: Comparison of Female Sexual Function Index (FSFI), Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire (PISQ-12 and PISQ-Long), and King's Health Questionnaire results of the three groups.

	Group 1 50-59 years	Group 2 60-69 years	Group 3 > 70 years	$P_{group\ 1-2}$	$P_{Group\ 1-3}$	$P_{Group\ 2-3}$
FSFI	(n=152)	(n=34)	(n=6)			
Desire	2.5 ± 1.0 (1.2-4.8)	2.8 ± 1.1 (1.2-4.8)	3.2 ± 1.9	0.224	0.359	0.592
Arousal	2.7 ± 1.3 (0-5.9)	3.0 ± 1.2 (1.2-6.0)	2.3 ± 1.8	0.226	0.531	0.343
Lubrication	3.8 ± 1.5 (0-6)	3.4 ± 1.4 (0.6-6.0)	1.7 ± 1.5	0.075	**0.006**	**0.030**
Orgasm	3.3 ± 1.4 (0-6)	3.4 ± 1.2 (0-5.2)	2.0 ± 1.5	0.746	**0.037**	**0.033**
Satisfaction	3.9 ± 3.8 (0-6)	34.7 ± 1.7 (1.2-6.0)	3.4 ± 1.5	0.686	0.870	0.782
Pain	4.2 ± 1.8 (0-6)	4.4 ± 1.6 (0-6)	4.7± 2.4	0.491	0.278	0.404
Total Score	20.1 ± 6.4 (3.2-32.6)	20.2± 6.0 (3.2-31.9)	17.1 ± 6.9 (10.0-28.7)	0.972	0.236	0.225
Number of Women with Total Scores Less Than 26	118 (77.6%)	29 (85.3%)	5 (83.3%)			
PISQ Scores	(n=189)	(n=67)	(n=27)			
PISQ-12	18.8 ± 7.5 (1-39)	19.2± 7.9 (5-60)	15.4 ± 5.7 (7-22)	0.735	0.247	0.169
PISQ-Long	48.2 ± 19.1 (2.5-100.6)	47.6 ± 15.9 (12.9-79.9)	39.7± 14.7 (18.1-56.8)	0.905	0.253	0.213
King's Health Questionnaire	(n=330)	(n=141)	(n=27)			
General Health	46.7 ±23.0	44.3 ± 21.6	41.7 ± 20.8	0.318	0.272	0.561
Incontinence Impact	63.2 ± 35.9	59.0 ± 40.3	38.3± 32.9	0.839	**0.003**	**0.011**
Role Limitations	55.6 ± 184.9	47.8 ± 38.4	24.7 ± 33.5	0.398	**0.012**	**0.004**
Physical Limitations	48.9 ± 39.2	48.3 ± 39.2	29.6 ± 35.0	0.839	**0.022**	**0.023**
Social Limitations	36.9 ± 34.4	36.2 ± 34.7	20.2 ± 27.6	0.862	**0.015**	**0.022**
Personal Relations	27.6 ± 36.8	18.4 ± 31.2	3.7 ± 11.6	**0.022**	**0.001**	**0.014**
Emotions	48.6 ± 38.2	43.4 ± 39.2	37.9 ± 38.9	0.297	0.204	0.487
Sleep/energy	42.2 ± 53.2	42.6 ± 40.3	29.6 ± 34.9	0.556	0.133	0.101

Severity	59.6 ± 47.4	55.0 ± 29.5	46.2 ± 30.7	0.590	0.103	0.170
Total score	417.7 ± 240.0	396.4 ± 238.9	272.4 ± 207.8	0.437	**0.002**	**0.013**

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143 - INTRAVESICAL INSTILLATION OF THE NATURAL BAOBAB OIL FOR LOWER URINARY TRACT SYMPTOMS IN WOMEN - PRELIMINARY RESULTS

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INTRODUCTION AND AIM OF THE STUDY

Lower urinary tract symptoms (LUTS), e.g. cystitis, nocturia, pollakisuria, micturition urgency/burning, stress/urge urinary incontinence, dysuria, haematuria, pelvic/perineal pain, etc. are very common and bothering disorders in women with significant impact on the quality of life (QoL). Natural products based on Baobab oil, such as Baotrofic, became increasingly popular and requested by these patients. Baotrophic is indicated for treatment of patients not responding to conventional drugs such as anticholinergics, alpha-blockers, antibiotics, analgesics, and anti-inflammatories. Natural Baobab oil is often used in traditional medicine as antipyretic, antioxidant, anti-inflammatory, analgesic, and antimicrobial. Baotrophic successfully regenerates the epithelial tissue in a short time improving tone and elasticity. It is also adjuvant in the glycosaminoglycan (GAG) layer repair and preservation, which acts quickly and painkilling. Moreover, anti-inflammatory and antioxidant activity promotes cellular reproduction, as opposed to the other conventional substances. In addition, the relevant presences of more adjuvants that concur in the repair of urothelium membrane create a negative condition to bacterial proliferation and viral replication.
The aim of this prospective study is to evaluate the effects of intravesical Baobab oil treatment in female patients with LUTS unresponsive to standard therapies.

MATERIALS AND METHODS

Since June 2017, totally 19 female patients with persistent LUTS refractory to standard pharmacotherapy are prospectively treated with an intravesical instillation of 50 ml sterile natural Baobab oil (Baotrophic, Physion Srl, Mirandola, Italy). After draining of the bladder, the suspension is infused intravesically through a Foley catheter. The solution is retained in the bladder for 60 min, followed by emptying of the bladder and removal of the catheter. Frequency of the Baotrophic use was one intravesical treatment per week for 4 weeks, and further one treatment per month for maintenance, until the cessation of symptoms.
Symptoms are self-estimated by the patients before and after each Baobab oil instillation and graded by the researcher considering type, duration, and intensity. According to severity, symptoms are classified as grade 0 (none), grade 1 (mild), grade 2 (moderate), and grade 3 (severe), The outcome measures are checked before and every day for one week after treatment.

RESULTS

Mean age of patients was 59.5±18.2 (26-86) years and mean parity was 1.7±0.6 (1-3). Fourteen patients (73.7%) were menopausal age with mean duration from the last menstrual period 18.6±11.9 (1-34) years. Five patients (26.3%) had previously abdominal hysterectomy, as well 2/19 (10.5%) with anterior colporrhaphy, but 1/19 (5.3%) had unsuccessful sling correction of stress urinary incontinence (SUI). Additionally, 5/19 (26.3%) patients had previously laser treatment of SUI or pelvic organ prolapse (POP) ≤ 2 stage with Fotona Smooth XS Dynamis Er:YAG system. Mean history of LUTS was 4.4±2.9 (1-10) years. Mean number of the instillations was 3.1±1.3 (2-5) and mean follow-up was 4.8±3.8 (1-12) months.
Initially 17/19 (89.5%) patients were moderately or strongly satisfied with effectiveness of intravesical Baotrophic treatment for LUTS. All of them reported reduction of the LUTS, mostly connected with cystitis, overactive bladder, bladder pain syndrome, incontinency episodes, etc., as well improvement of the QoL. The remaining two (10.5%) patients subjectively referred a quite slight initial improvement, but they both still continuing treatment by the standard protocol. There were no adverse effects in treated patients.

INTERPRETATION OF RESULTS

These preliminary results approved intravesical instillation of the natural Baobab oil as a safe and minimally invasive treatment for LUTS in women, with initial effective therapy outcome and significant improvement of the QoL The efficacy of this method has been demonstrated in the short term, but long-term results still should be estimated. For now, it is a practical and well tolerated treatment promising further favourable results as well.

CONCLUSIONS

As a conclusion, our preliminary data demonstrated that intravesical Baobab oil treatment could be effective therapeutic option for women with LUTS resistant to conventional medicamentous therapy. Additionally, it

may be possible to avoid using repeated and possibly adverse antibiotics, but future wider randomized studies should also be required.

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144 - YEARS AUDIT OF TRANSOBTURATOR SLING SURGERY FOR STRESS URINARY INCONTINENCE IN A MAJOR MULTISPECIALITY HOSPITAL IN SONEPAT INDIA

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INTRODUCTION AND AIM OF THE STUDY :

Urinary stress incontinence is a major gynaecological condition affecting 29% of women. The management includes conservative methods and surgical interventions-midurethral tape be it TOT or TVT or urethral bulking agents. TOT technique has been in place for some time now. The efficacy of TOT has been proven but its long term complications have not been studied. In our department we audited the surgical practice and long term complications of TOT repair for USI and compared our rates to those cited in literature.

MATERIALS AND METHODS

All data was collected from retrospective audit on 1126 cases who had TOT for SUI from July 2006 to September 2016.

RESULTS

Over 1126 patients underwent SUI in 10 years in the department. 20 patients (1.78%) had urinary retention, there was no bladder or vaginal perforation. 72 patients (6.39%) had denovo urge incontinence. 46 patients had perineal pain (4.09%). Vaginal erosion was a complication in 3 women. The risk of erosion varied with type of suture used.

No button hole injuries, pelvic haematoma or post operative infection occurred in our cohort.

Characteristics	Total N-1126
Age(mean)	48.40
Height	1.40
Weight	66.4KG
BMI	27.6
Menopause	916
Pure Stress Incontinence	941
Mixed	185
Previous hysterectomy	40%
Previous Sling Surgery	31%

Complications					
Per-operative		Early post operative		Late post operative	
Vaginal perforation	0	Urinary	20	Vaginal erosions	3
Bladder perforation	0	retention	(1.78%)	Re-intervention	3
Haemorrhage>200ml	24 patients (2.13%)	Haematoma	0	Abscess	0
				Denovo urgency	72 (6.39%)
				Perineal Pain	46 (4.09%)
				Urethral Fistula	1

INTERPRETATION OF RESULTS

Our study confirms that at short term, TOT is a safe procedure with very few per-operative and early post operative complications. However, during the long term follow-up, occurrence of *de novo* urge symptoms, *de novo* dyspareunia, perineal pain, and vaginal erosions significantly reduced the satisfaction of patients.

The only relevant per-operative complication, in our study, was haemorrhage of more than 200 ml (2.13%), but there were no haematomas, and no transfusion was required. Different series of TOT procedures report similar risks of bleeding rates varying between 0.83 and 5.4%. In a large study the incidence of intra operative bleeding of more than 200 ml was 1.9% for the TVT procedure.

The incidence of urinary retention is low in our study and is similar to the rates of 1.78% reported by other authors. In a recent review which compared retropubic and transobturator tapes, voiding lower urinary tract symptoms were less common with the transobturator route.

De novo urge symptoms have a high impact on quality of life. We observed 6.39% of women with persistent *de novo* urgency at long term follow-up which is similar to other studies. In comparison, the risk with TVT is reported to be higher in the short term (33% for TVT vs 8% for TOT), but after a longer follow up period, the risk is similar (6.3%).

Perineal pain is reported to occur in 2.3% to 5% after transobturator surgery, to be transient, resolving within the first month. We report the same rates, but with persistent pain on long term follow up.
In our study 3 women had vaginal erosions. The proportion of women satisfied with the procedure was significantly reduced when erosion occurred.

We believe that vaginal erosion might be secondary to three potential factors: the sling material, surgical technique, or individual patient factors. Our data confirm that the tolerance of vaginal tissue depends on the type of sling used. The three tapes used in our study are polypropylene monofilaments. The Gynaecare TVT^{TM} of Ethicon, Freedom VM^{TM} of Lotus and Centilene Mesh Sling of Centenial. There was zero erosion rate with Gynaecare TVT^{TM} of Ethicon and Freedom VM^{TM} of Lotus and Centilene Mesh Sling of Centenial were the cost effective meshes.

CONCLUSIONS

The complication rate be it per-operative, early post operative or last post operative were low for TOT procedures done at our centre. The choice of sling material may be an important risk factor for erosions. Our findings showed that the complication rate is similar to literature, although we should continue to audit and compare our success and complication rates to achieve better targets.

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145 - OBSTETRIC ANAL SPHINCTER INJURIES (OASIS) INCIDENCE AND PREDICTOR FACTORS, TWENTY YEARS EVOLUTION OF RESULTS: OBSERVATIONAL RETROSPECTIVE STUDY AND CASE CONTROL

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INTRODUCTION AND AIM OF THE STUDY

Introduction: The incidence of OASIS presents a significant variability in the literature (0.6-19.3%) and it appears as one of the main causes of anal incontinence in women. Training programs for detection and treatment of OASIS have increased the detection rate, as well as its repair according to RCOG guidelines [1]. These guidelines suggest risk factors for OASIS include nulliparity, birth weight greater than 4kg, shoulder dystocia and instrumental delivery Previous studies show mediolateral episiotomy as a protector factor [2-3].

Aim of the study: The objective of this study was to describe obstetric trauma in our population associated to the type of delivery and its evolution in a 20 years period. Moreover, we estimated the risk of OASIS and associated factors.

MATERIALS AND METHODS

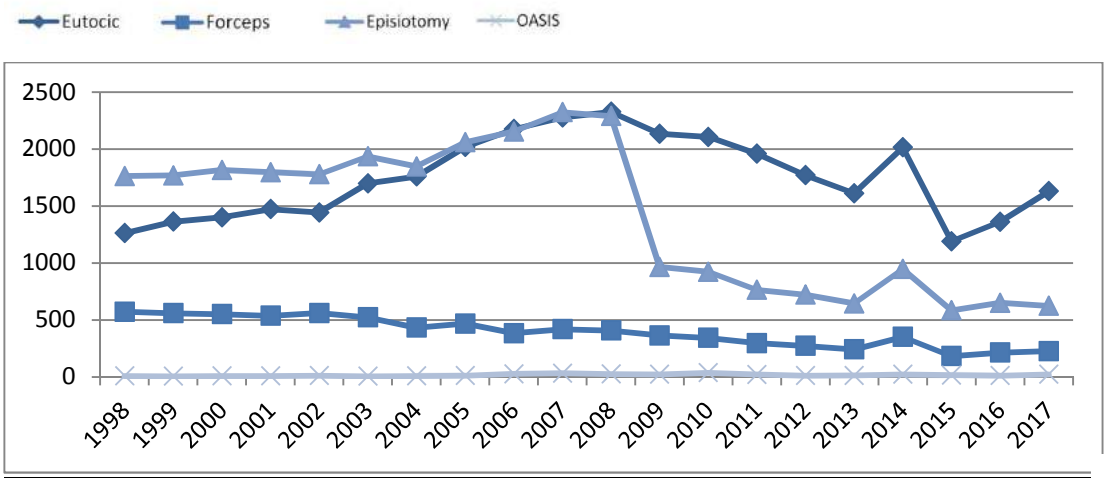
We carried out an observational retrospective and case-control study in deliveries attended in Parc Taulí Hospital from 1998 to 2017 with data obtained from our official obstetric registry. First step was to analyze the incidence of perineal trauma, with special attention to anal sphincter injuries (OASIS) according to RCOG recommendation. Secondly, we analyze predictor factors for OASIS.

Statistical analyses were performed using the Stata© (Version 14.0. College Station, Texas: StataCorp LLC). Means (±sd) and medians (quartiles) by asymmetric distribution was used to describe by years. Binary and multivariate logistic regression analysis was used to identify independent risk factors associated with OASIS.

RESULTS

Descriptive analysis

n (%)	Total	2017	2013	2008	2003	1998
Eutocic	34951(67.61)	1629 (72.3)	1611 (69.2)	2325 (70.3)	1698 (65.0)	1261 (58.2)
Forceps	7901 (15.3)	226 (10.0)	241 (10.4)	407 (12.3)	522 (20.0)	571 (26.4)
Cesarean Section	8560 (15.6)	392 (17.4)	477 (20.5)	565 (17.1)	379 (14.5)	282 (13.0)
Locoregional Anesthesia	42676 (87.0)	1971 (87.7)	2051 (88.0)	2515 (76.0)	2033 (77.9)	1747 (80.7)
Episiotomy	28341(66.1)	624 (33.6)	644 (33.7)	2289 (83.8)	1935 (87.2)	1762 (96.2)
Perineal trauma 2nd degree	6037 (14.1)	399 (21.5)	389 (21.0)	509 (18.6)	219 (9.8)	183 (9.9)
OASIS	327 (0.8)	22 (1.1)	13 (0.7)	25 (0.9)	6 (0.3)	8 (0.4)



Comparative analysis Maternal age | Obstetric pathology | Associated pathology | Parity | Type of delivery

Bivariant OASIS vs	p=0.08	p=0.82	p=0.07	p=0.00	p=0.00
	Episiotomy	2nd grade perineal injury	Locoregional anesthesia	Birth weight	Maternal Transfusion
	p=0.00	p=0.00	p=0.00	p=0.00	p=0.84

Multivariate comparative analysis

A multivariate logistic regression was performed looking for factors that are associated independently to the appearance of OASIS. The model that presents better association by eliminating the confusing factors and being the most parsimonious includes:

% OASIS = **Parity** 0=>0 1 =>-0.6 2=>-1.6 3=>-2.2 **T. of delivery** Eutocic = 0 Forceps=+1.9 0.00073*__birth weight__) + (-0.72*__Episiotomy__)

INTERPRET

Our obstetric ed i by decreasing the rate of forceps and episiotomies, and improving the rate of injuries detection. This last point is associated with the implementation of courses for the detection and repair of OASIS.

Patient associated pathologies, obstetric pathologies, maternal age, and the need for postpartum transfusion, were not significantly associated with having a high risk of OASIS. Parity, the type of delivery, episiotomy, 2nd degree perineal injury, use of locoregional anesthesia and birth weight were associated factors in bivariant analysis. However, multivariate analysis has shown the confusing effect of some of these parameters.

CONCLUSIONS

The registration of the obstetric activity is helpful in monitoring for OASIS and training activities such as sphincter trauma courses are essential for ~~a~~ good clinical practice.

Based on these results, we could estimate the percentage of risk of sphincter lesions according to parity, fetal weight, type of delivery and episiotomy.

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146 - INVESTIGATION OF UROLOGICAL PROBLEMS AND PELVIC FLOOR DYSFUNCTION AWARENESS IN HEALTHCARE PROFESSIONALS

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence, defined as the loss of bladder control, is a common and often embarrassing problem. Prevalence in women varies between 9% and 72%. The prevalence of urinary incontinence varies between 25.8% and 68.8% in Turkey (1). Although pelvic floor dysfunction is a common and troublesome problem, many people do not have the knowledge and awareness of pelvic floor health. For this reason, most women with Pelvic Floor Dysfunction remain silent, do not discuss their problems with the healthcare professionals, and do not seek treatment. However, Pelvic Floor Dysfunction should be considered as a preventable public health problem, awareness should be developed in the community and healthcare professionals on this issue (2). All of this made us think that Pelvic Floor Dysfunction should be cared about, established and awareness needs to be improved on it. For this reason, we planned this study in order to determine urologic problems and awareness of pelvic floor dysfunction of healthcare professionals.

MATERIALS AND METHODS

Women healthcare professionals in the range of 20-45 years (mean: 40.58±6.71year) and working in Denizli State Hospital were included in our descriptive and cross-sectional study. Participants who had any pathology that may lead to incontinence, and were in the menopause period were not included in the study. Demographic and clinical data (for Incontinence) of participants were recorded. The incontinence symptom severity was assessed by the Urogenital Distress Inventory (UDI) and its impact on the quality of life by the Incontinence Impact Questionnaire (IIQ). The level of awareness associated with incontinence was recorded with the Incontinence Quiz (IQ).

RESULTS

The prevalence of incontinence in women healthcare professionals was found to be 7.5%. The rate of incontinence was significantly higher in women who had irregular menstruation period ($p<0.05$). while there was no significant relation between incontinence and the number of pregnancies, vaginal or cesarean deliveries of the participants (Table 1). There was no correlation between frequency and severity of the urinary incontinence problem and the UDI and IIQ scores of the participants ($p>0.05$) (Table 2). In terms of incontinence awareness, the physicians' IQ scores were found to be higher than other healthcare professionals ($p=0.001$) (Table 3).

Table 1: Examination of participants' numbers of pregnancies and the way of delivery in terms of incontinence

Variables	Incontinence						p*
	Yes		No		Total		
	n	%	n	%	n	%	
Number of Pregnancies	34	7.94	394	92.06	428	100	0.093
Number of Vaginal Delivery	16	8.89	164	91.11	180	100	0.558
Number of Cesarean Delivery	20	7.38	251	92.62	271	100	0.979
Menstruation Period							0.001
Regular	24	5.4	420	94.6	444	100	
Irregular	12	32.4	25	67.6	37	100	

*: Chi-Square test

Table 2: Correlation between Incontinence and UDI and IIQ scores

Incontinence	ÜDI		IIQ	
	r	p*	r	p*
Duration	0.026	0.882	0.067	0.697
Frequency	0.188	0.273	0.117	0.496
Severity	-0.099	0.580	0.189	0.284

*Spearman Correlation Analysis

Table 3: Average scores of Incontinence Quiz among Healthcare Professionals

Healthcare Professionals	Incontinence Quiz Mean ± SD

Physicians	9	2.45
Nurse	6.5	2.47
Assistance Health Personal	7	2.63

Table 4: Comparison of Incontinence awareness among Healthcare Professionals

Healthcare professionals	p*
Physicians-Nurse	0.001
Physicians- Assistance Health Personal	0.001
Assistance Health Personal-Nurse	0.703

*: Kruskal Wallis Variance Analysis (post hoc: Mann Whitney U test with Bonferroni Correction)

INTERPRETATION OF RESULTS

The prevalence of incontinence was 7.5% in healthcare professionals. This suggests that the rate of incontinence in healthcare professionals is less than in society. In addition, the number of pregnancies, vaginal and cesarean deliveries rates of the participants did not increase the risk of incontinence. According to the results of our study, women with irregular periods of menstruation are more likely to have incontinence. This suggests that menopause plays an important role in the development of incontinence. The duration, severity and the frequency of incontinence did not affect the quality of life and symptom severity. We have achieved this result because of the number of participants who had incontinence problem and the severity of incontinence is low in our study. In addition, physicians' incontinence awareness level is higher than nurses and assistant health personnel. This shows us that as the knowledge level of the healthcare professionals' increases, the awareness of incontinence increases.

CONCLUSIONS

The World Health Organization has named urinary incontinence as one of the latest medical taboo. Extensive studies of Pelvic Floor Dysfunction have been undertaken in many countries, and emphasized the need to raise the awareness of this treatable and preventable medical problem (3). In our study, the prevalence of incontinence was found to be 7.5% among healthcare professionals, and we found that the non-physicians healthcare professionals' incontinence awareness levels were low. We think that the health professionals who guide health problems to their patients and their surroundings need to raise their awareness about this problem and provide necessary information about this medical taboo.

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147 - LAPAROSCOPIC LATERAL SUSPENSION WITH MESH FOR PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Genital prolapse is a common condition that affects approximately 30% of women and compromises their quality of life. Laparoscopic sacrocolpopexy is considered as the gold standard. However, the serious complications associated with this technique have led several teams to develop other laparoscopic procedures. The purpose of this study was to evaluate the technique of laparoscopic lateral colpo-uterine suspension using a mesh, to specify its indications, advantages and complications and to assess its success rate.

MATERIALS AND METHODS

From January 2008 to June 2016, 112 patients with genital prolapse were operated on the technique of laparoscopic lateral colpo-uterine suspension with mesh. The data collected were: anthropometric characteristics, obstetric and gynecological history, preoperatively and postoperatively functional signs and prolapse grade, the degree of preoperative discomfort and postoperative satisfaction, operative complications, immediate and late postoperative complications.

Systematic postoperative clinical examinations were performed after 4 weeks, at 6 months and at 12 months. Clinical evaluation of pelvic organ support was performed in 57 cases (68.7%) at the beginning of the study. A telephone interview was conducted to assess patient satisfaction in 26 patients (31.3%) who were unnable to come to the control, using the visual analogue scale for global satisfaction.

RESULTS

The mean age of the patients was 49.02 ± 6.92 years [29-69]. At the time of the operation 45.8% of the patients were not menopausal. The operative time and hospital stay were respectively 178 ± 73minutes and 2.4 ± 0.9 days. After a mean follow-up of 21 months, the success rate of anatomical reduction with this technique was about 94.8% and 4 cases of recurrent vaginal prolapsed was noted, 2 were partially improved. A grade 0 was found in 58.4% and 70.1% of cases respectively at the anterior and middle floor. The rate of success for the anterior and middle floor was respectively 94.8 % and 97.4%. 70 patients (84.3%) were satisfied by the functional outcome and the degree of postoperative satisfaction was 8.1 ± 1.38 [4-10]. No laparoconversion was necessary. One bladder perforation occurred during dissection requiring peroperative suture. There was no blood transfusion. Three delayed complications were observed (3.6%): two cases of parietal mesh erosions, one case of bladder cuff granulomas. There were not cases of vaginal mesh erosions.

INTERPRETATION OF RESULTS

Some initial reports have shown the feasibility and the effectiveness of the laparoscopic lateral colpo uterine suspension with mesh reinforcement in the treatment of genital prolapse.

Our study joins the various publications about laparoscopic lateral suspension and proves that it is a feasible and safe technique with promising long-term anatomic results, promising subjective cure rates in highly satisfied patients.

The rate of complications is low with laparoscopic colpo uterine suspension using a mesh. This confirms the feasibility and simplicity of this technique.

CONCLUSIONS

The results of this study and the review of the literature demonstrate the feasibility of the laparoscopic lateral colpo-uterine suspension using a mesh in the treatment of genital prolapse. Indeed, in addition to its good anatomical and functional results, this technique is now well established, simple, easy, and reproducible, with less operative time and without risk of serious complications.

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148 - UTEROVAGINAL PROLAPSE IN A WOMAN WITH PREVIOUS MITROFANOFF OPERATION; MANAGEMENT DILEMMAS: REPORT OF A CASE.

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INTRODUCTION AND AIM OF THE STUDY

Mitrofanoff operation or vesico-appendicostomy is a standard procedure for intractable incontinence of urine. These are usually performed for women with congenital anomaly like bladder extrophy. This procedure may be rarely performed for other cause of incontinence. Uterovaginal prolapse in women who have undergone this continent catherizable conduit operation has not been reported. The aim of this report is to detail the dilemmas of management of one such case.

MATERIALS AND METHODS

We present the case of a women, 27 years of age, who underwent augmentation cystoplasty along with Mitrofanoff procedure for incontinence following bladder neck transection due to pelvic fracture sustained in a road traffic accident at the age of 16 years.

RESULTS: The presentation brings out the course of events after the accident leading finally to this procedure.The women got married and had two vaginal deliveries 5 and 2 years prior to presenting with something coming out of the vagina.

On examination the general physical examination was normal. Abdomen revealed vertical scars healed by secondary intention and the Mitrofanoff stoma on the right flank. (Fig1).

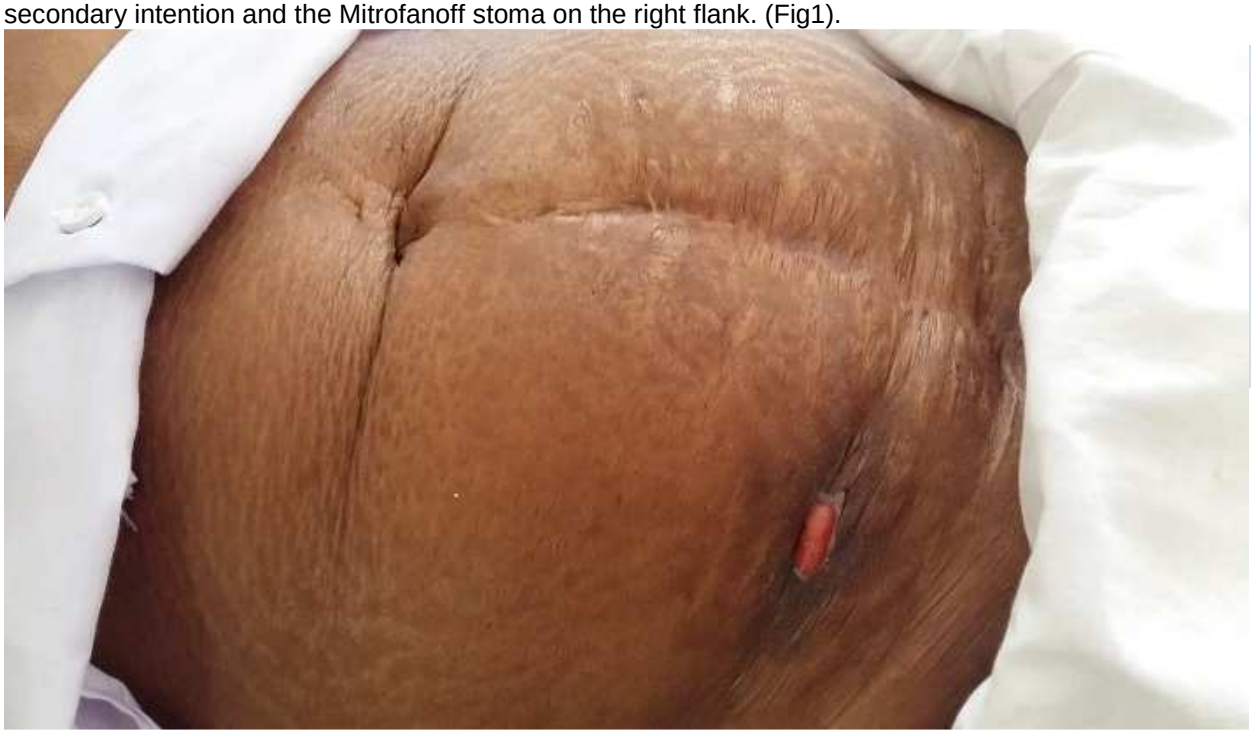

Fig1: The photograph of the abdomen showing the continence catheterizable cutaneous stoma

-3 Aa	+1 Ba	+5 C
5 gh	2 pb	8 tvl

The POPQ classification as follows

Ap	Bp	D
-3	+2	-6

There was suprapubic elongation of cervix with a central cystocoele.
She also wanted tubectomy operation for family planning as her husband refused to undergo vasectomy inspite of counselling about the difficulty in the procedure due to multiple scars.
After counselling she was taken up for Fothergill operation along with Laparoscopic tubal ligation.
The procedure was successfully completed. The dilemmas were the concern of mobilizing bladder in the wake of previous operations, the difficulties in laparoscopic tubal ligation due to the adhesions of previous operations as well as the need to protect the pedicle of the previous operation and the dilemma of post operative urine outpu measurement.The presentation will detail these dilemmas involved in the procedure and postoperative management.

INTERPRETATION OF RESULTS:

The presentation will discuss the role of caesarean section versus vaginal delivery after such procedures**.** Though this procedure has been performed for many years and many authors have followed them up for years after the procedure, there is no report of uterovaginal prolapse in association with this procedure[1,2].

CONCLUSIONS: This case brings out the rare association of uterovaginal prolapse 10 years after the Mitrofanoff operation. Such a case of uterovaginal prolapse can be managed by conservative vaginal surgery. Laparoscopic tubal ligation is an achievable option in such women.

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149 - MID-URETHRAL TAPE FOR STRESS URINARY INCONTINENCE: OUTCOMES & SUCCESS RATES

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) affects approximately 34% percent of UK women, with around 41% of this attributable to stress urinary incontinence (SUI).[1] Numerous procedures have been used in the management of SUI, namely colposuspsension, autologous fascial sling and Mid-Urethral Tape (MUT). Since their introduction in the 1990s, mid-urethral tapes have become the mainstay of management for SUI, with over a million sited worldwide, the majority of these being tension-free vaginal tapes (TVT) of varying subtypes.

MUTs can be carried out as a day case procedure, minimising both operative complications and hospital stay when compared with open surgical procedures, which has secured their favour. Recent media coverage regarding vaginal mesh procedures has led many units to reassess their success and complication rates with mid-urethral tapes. We conducted this audit to evaluate our own data and compare this to national standards. This also allows us to provide our patients with evidence-based data regarding local success and complication rates.

MATERIALS AND METHODS

A study period of 15 months (Jan 2016- Mar 2017) was chosen and all patients who underwent insertion of mid-urethral tape within this period were included within the sample group. Patient notes were used to gain background information, initial assessment and investigation results, as well as operation notes. Initial follow up appointment details was gathered from patient notes and later follow up information from both patient notes and telephone interviews. Standards were set as per national guidance[2].

Audit Criteria	Standard
Cystoscopy at the time of TVT insertion	100%
Intra-operative Antibiotic prophylaxis	100%
Peri-operative visceral injury	1-3%
Continence at 1 year	62-73%
Mesh erosion rate	1-4%

RESULTS

37 patients were included in the study group. The average age at time of operation was 48. Average parity was 2. Average BMI was 30. 21 patients had no medical co-morbidities, 11 had a single medical co-morbidity, 5 had multiple medical co-morbidities.

24% of patients reported pure stress incontinence symptoms at initial assessment, with 76% of patients reporting mixed incontinence symptoms. 8 patients reported prolapse symptoms along with stress urinary incontinence (SUI) at initial appointment.

All patients had insertion of TVT-O. 84% of these were under general anaesthesia, 16% under spinal anaesthesia. All patients were given antibiotic prophylaxis. 100% patients had cystoscopy performed at the time of insertion. There were no visceral injuries. 16 patients had TVT-O insertion along with another procedure. Average duration of all procedures was 48 minutes, for TVT-O alone the average duration was 23 minutes.

27 patients had successful initial trial without catheter (TWOC). 26 patients were discharged on the day of surgery. All but one of the patients discharged after the day of surgery had combination procedures.

4 patients had post operative readmissions; 1 with acute urinary retention, 2 with urinary tract infection (UTI), 1 with sepsis / ileus (this patient had undergone vaginal hysterectomy and pelvic floor repair at the time of TVT-O insertion).

Initial follow up appointment was at 6 weeks post operation with the Urogynaecology Specialist Nurse. The majority of patients were well and pleased with the procedure. 6 patients reported some leg pain, with most stating that this was already improving. 1 patient reported voiding difficulty requiring intermittent self-catheterisation. 1 patient was found to have tape exposure in the vagina and later went on to have the MUT removed. 1 patient was found to have microscopic haematuria but cystoscopy and examination were both normal with no tape erosion.

32 patients were available for follow up at / > 12 months post operation. Average timing of follow up was 19.5 months 94% of patients had successful treatment of their stress urinary incontinence. 25% of patients reported ongoing urgency and/or urge incontinence symptoms.

25% of patients reported complications after surgery, of which: 2 patients reported ongoing leg pain, one mild, the other patient reported significant symptoms affecting mobility & intercourse and had been referred to a tertiary centre for second opinion and consideration of tape removal. 2 patients reported voiding difficulty. 1 of these was the patient who had been readmitted with acute urinary retention. 1 patient described a sensation of incomplete emptying but was found to have an empty bladder when scanned. No patients reported vaginal or pelvic pain. 2 patients reported recurrent UTI (1 of these was a patient who was readmitted post operatively with UTI). 1 patient reported vaginal soreness but no tape erosion was seen on examination.

INTERPRETATION OF RESULTS

Audit Criteria	**Result *(Standard)***
Cystoscopy at the time of TVT insertion	100% (*100%)*
Intra-operative Antibiotic prophylaxis	100% (*100%)*
Peri-operative visceral injury	0% (*1-3%)*
Continence at 1 year (including mixed incontinence) Continence at 1 year (pure stress incontinence)	72 % *(62-73%)* 94%
Mesh erosion rate	3% *(1-4%)*

We adhered to the expected standards for antibiotic prophylaxis and cystoscopy at the time of insertion. There were no visceral injuries at the time of surgery.

This was a small study and would benefit from larger patient numbers, as well as follow up over a longer time period. Assessment of symptoms in person (rather than via telephone questionnaire) would provide more robust data for follow up.

CONCLUSIONS

Our success rate for treatment of SUI was high. There were no intra-operative complications and the majority of post-operative complications were minor. This was a small study with a limited patient group.

Patients who have good initial recovery without complications are likely to continue and be pleased with the outcome. Where complications do occur, these can have long term implications for patients, so adequate information and informed consent prior to the procedure are essential.

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150 - ULTRASOUND ASSESSMENT OF LEVATOR ANI TRAUMA 1 MONTH AFTER DELIVERY: COMPARISON BETWEEN EPISIOTOMY, PERINEAL LACERATIONS AND INTACT PERINEUM AND CORRELATION WITH UROGYNECOLOGICAL SYMPTOMS.

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INTRODUCTION AND AIM OF THE STUDY

Pelvic floor with its complex of ligaments, muscles and fascias is an integrated system which provides Pelvic floor with its complex of ligaments, muscles and fascias is an integrated system which provides support to pelvic organs and supplies to their function. We are well aware of how vaginal delivery could cause levator ai muscle (LAM) lesions or avulsion or enlargement of urogenital hiatus which lead to development of pelvic floor dysfunctions and thus pelvic organ prolapse or stress urinary incontinence

The late onset of most of these symptoms (i.e. vaginal bulge due to pelvic organ prolapse) together with their multifactorial aetiology make it difficult to understand the link with vaginal birth; particularly, as a matter of fact, literature provides few or no data regarding the real link with the type of assistance to a vaginal birth (with episiotomy, lacerations or intact perineum) with the post-partum ultrasound characteristics of LAM and, later, the development of urogynecological problems.

Aim of our study is to provide an ultrasound and clinical evaluation in women before and after vaginal birth, trying to observe whether there is a correlation between ultrasound selected parameters, their modification and the physiological vaginal delivery. Secondly we want to establish if these modifications can influence pelvic floor anatomy and the early and later onset of pelvic floor dysfunction. New findings could provide a tool to select patient suitable for rehabilitation of pelvic floor early after delivery.

MATERIALS AND METHODS

This is an observational prospective study, which includes a sample of at least 50 women who will deliver in Fondazione Policlinico Gemelli in Rome, from June 2018 to October 2018. All primiparous women who will deliver with a vaginal birth after 37 w+0, with or without induction of labour will be recruited notwithstanding receiving episiotomy, or having perineal laceration (I-II-III-IV degree) or intact perineum.

Patients with Gestational Diabetes and neonatal weight at birth higher than 4 kg, patients requiring operative vaginal birth, or with known pelvic dysfunction and neuromuscular or connective tissues diseases prior to pregnancy will not be included. All patients recruited will be offered an ICI- Q and a FSDS questionnaire during the third trimester examination, in order to evaluate prior dysfunctions. They will receive these same questionnaires one month after delivery, together with a complete urogynecological examination (i.e. assessment of pelvic organ prolapse , stress test and Q-tip test). A 3D transvaginal US scan (BK medical) will be performed to measure the urogenital hiatus area and to assess eventual Levator Ani Muscle injuries or avulsion.

RESULTS

Results are expected to be ready in October. We will compare clinical and ultrasound-detected LAM characteristics of patients received episiotomy, or having perineal lacerations, or intact perineum.

INTERPRETATION OF RESULTS

The collected data will be analysed to establish the correlation between the physiological vaginal birth and its assistance and LAM lesion or avulsion, or the enlargement of urogenital hiatus and thus the link with symptoms reported by the patients. These will enable us to select patients who could benefit from early pelvic rehabilitation. Will this help to identify further risk factors in development of pelvic floor dysfunction after vaginal birth?

CONCLUSIONS

Vaginal birth represents a key event in the developing of pelvic floor dysfunctions in women's life. It's been widely demonstrated how the crowning of the head stretches the LAM fibres and the pudendal nerves providing injuries that are later responsible for the onset of pelvic organs prolapse or urinary incontinence and sexual dysfunctions. Could an US and clinical examination after one month provide a safe and reliable tool to early diagnose pelvic floor dysfunctions? Could this represent the basic step to select women who need early rehabilitation? Further studies will moreover clarify whether this effort could also effectively prevent or delay the presentation of pelvic floor diseases and so improving women's quality of life after labour and vaginal delivery.

151 - THERAPY OF URGENCY URINARY INCONTINENCE IN WOMEN – A RANDOMIZED CLINICAL TRIAL TO COMPARE THE EFFECT OF SOLIFENACIN WITH THE STANDARDIZED BILATERAL REPLACEMENT OF THE UTEROSACRAL LIGAMENTS WHAT IS THE BEST LENGTH OF THE UTERO-SACRAL LIGAMENT FOR TREATMENT OF PROLAPSE AND URINARY INCONTINENCE?

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Introduction

According to anatomical textbooks the vagina is hold in its apical position by the effect of the utero-sacral ligaments (USL). However, the normal length of the USL is not known.
According to the anatomical dimensions of the small pelvis the USL extend between the fascia of the first sacral vertebra and the cervix.
In patients with prolapse of the uterus we replaced the USL by polyethylene-tapes (GORETEX). We compared the outcome of tapes with different lengths.

Material and Methods

Overall … patients were operated between 2004 and 2009. All patients had partial or total prolapse of the uterus or the vagina. Goretext tapes were cut by the authors. The tapes were placed at the fascia at S1 and either at the cervix (CESA) or at the vaginal stump (VASA). The length varied between 12 and 11 cm (2004-2005), 10 and 9 cm (2005-2007) and 9 and 8 cm (2007-2009) during the course of the studies. Beside its effect on apical fixation the effects on urinary incontinence was documented.

Results

The apical fixation of the VASA or CESA operations led to perfect anatomical results. 4 weeks after surgery the cervix or the vaginal stump were between -5 cm and – 8 cm (POP-Q). It was interesting to note that .. patients suffered from mixed urinary incontinence. After surgery (CESA or VASA) in several patients the urinary incontinence totally disappeared. The out came was (ZAHLEN EINFÜGEN)

Discussion

The original length of the USL was unknown so far. According to the Integral Theory for Urinary incontinence the function of the USL is critical for continence. When we replaced the USL with tapes we realized that several patients became continent again. However, the length of the tapes was of critical importance. The maximal effects were noted in patients who got a 9 cm long tape. Longer tapes were not effective and shorter tapes caused defecation problems and a stiff vagina. Unfortunately, the Goretex material tended to shrink. Therefore, the long-time outcome was unpredictable. We therefore decided to use PVDF, which has no shrinking tendency (DYNAMESH, FEG, Aachen, Germany). Respective structures were developed and used since 2011.

152 - COMPARE THE RESULTS OF PELVIC FLOOR PROLAPSE REPAIR IN VAGINAL SURGERY(ANTERIOR COLPORRHAPHY WITH MESH AND SACROSPINOUS LIGAMENT SUSPENSION) AND ABDOMINAL APPROACH (SACROPEXY OR HYSTEROPEXY)

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Background: Prolapse of the pelvic organs is prevalent by high percentage in women with age progression, which has a direct effect on the function of the urinary-digestive system and sexual function. New methods used in vaginal prolapse is Infracoccygeal sacropexy (which was first reported by the posterior intravaginal slingplasty by of Petros in 1997.
Objective: The aim of this study was to compare of pelvic floor prolapse repair in vaginal surgery with abdominal approach.
Material and Method: In this cross-sectional study 50 patients in two groups of 25 were included by inclusion criteria. Group A were underwent anterior colporrhaphy with mesh and Sacrospinous ligament suspension as vaginal surgery and group B underwent Sacropexy and Hysteropexy as abdominal approach. Patient information including age, number of pregnancies, type of delivery, previous history of surgery, duration of prolapse, duration of hospitalization, surgical duration, pain during discharge based on VAS recorded.
Results: In group B, the prevalence of incontinency (p=0.001), urgency (p=0.001), hesitancy (p=0.021), difficult urination (p=0.031), disparoni (p=0.001), vaginal pain (p=0.001), fecal incontinency (p=0.023) and PVR (p=0.17) were lesser than group A and there was a significant difference between two groups. Prevalence of pain after surgery in group A was 53.4% and in group B was 10.9%. There was a significant difference between two groups (p=0.001).
Conclusion: It can conclude that abdominal approach by Sacropexy and Hysteropexy has lesser side effects and adverse outcomes comparing with anterior colporrhaphy with mesh and Sacrospinous ligament suspension method.
Key Words: Prolapse, Vaginal Surgery, colporrhaphy. Sacropexy

153 - INVESTIGATION OF UROGYNECOLOGICAL PROBLEMS IN WOMEN EXERCISING REGULARY

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INTRODUCTION AND AIM OF THE STUDY

According to the World Health Organization (WHO) 2002 report, inactive life causes about 1.9 million deaths worldwide worldwide (1). In healthy middle aged women, exercise is indispensable and necessary. However, when exercising, some important health problems should not be overlooked. Urinary incontinence affects 50% of women worldwide, the majority of which is between the ages of 30 and 50(2). Polycystic over syndrome, myoma uteri, endometriosis, etc. gynaecological problems are very common. In our research we aimed to examine urogynecologic problems in women who play regular sports.

MATERIALS AND METHODS

A total of 66 volunteer women aged between 16 and 57 who participated in the exercise for at least 150 minutes a week were included. Socio-demographic data were recorded and urogynecologic problems were questioned with 11 open-ended questions. Participants' duration of exercise and the type of exercise they performed were also recorded.

RESULTS

The average age of the participants was 32.92±10.35 years and the body mass index average was 24.69±4.56kg/cm². The average of menarj: 13.27±1.71 years. 45.7% of the women gave birth, 60.5% of those who gave birth as a cesarean section. 54.3% of the participants had a bachelor's degree (University graduate) and 72.9% had regular menstrual cycles. Participants' average weekly exercise duration was found to be 215,38±91,37 min. They stated that 72.9% of participants had circular training consisting of 9 isokinetic exercise stations, 42.9% had pilates, 40% walked and 17.1% applied special fitness program. When urogynecologic problems were examined, pollakiuria was found in 60%, urinary infection in 47.1%, dysmenorrhea in 45.7%, vaginitis in 28.6%, polycystic ovary syndrome in 11.4% and urinary incontinence in 10% . While constipation was seen in 27.1% of the cases, dysmenorrhea was not seen in 51.4% of the participants.

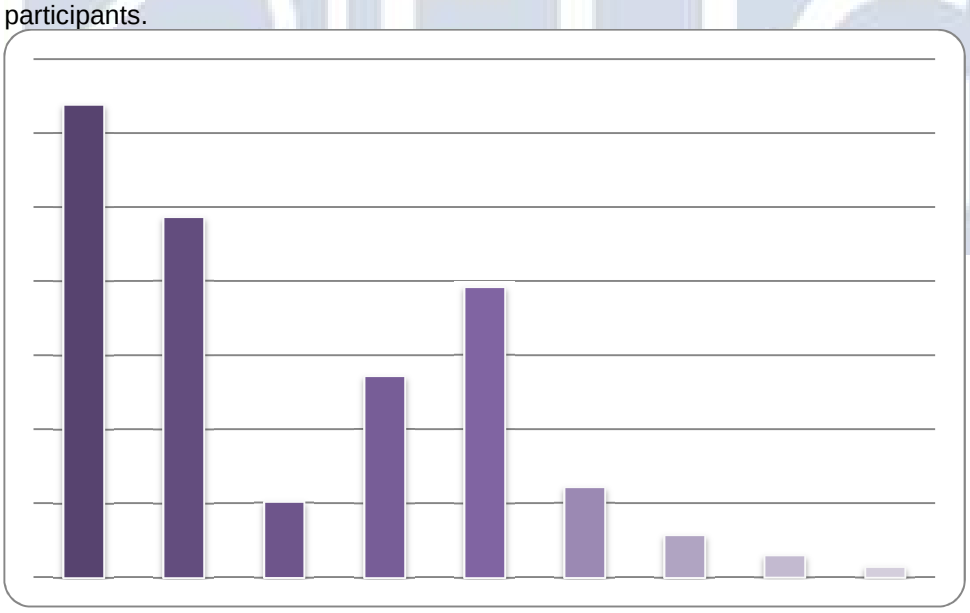

Figure 1: Urogynecologic problems for women who exercise regularly.

INTERPRETATION OF RESULTS

The most common urogynecological problem in women participating in the study was found to be pollakiuria. Worldwide, the incidence of urinary incontinence in women is 50%, while the incidence in women exercising is lower . Although 45% of the women who participated in the study had given birth, the rate of incontinence was 10%. We think that the increase of strength of the muscle around the hip in the exercising methods is a positive effect on incontinence. However, if the exercise method is supported by pelvic floor exercises that can be done in the presence of a physiotherapist, we believe that the rate of incontinence will be even lower. According to the literature, the incidence of constipation is between 2% and 27%, whereas our study rate is compatible with the literature with 27%.

CONCLUSIONS

Exercise is an important factor in reducing the incidence of many different urogynecologic problems and increasing the quality of life for women. We anticipate that women should exercise regularly, especially during the middle age and beyond. In addition, women should be regularly assessed as urogynecologic and should be guided especially on those women who need pelvic physiotherapy as well.

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154 - THE INTRODUCTION OF THE UROGYNAE MDT IN SHSCT AND ITS IMPACT ON PATIENT SELECTION FOR MESH INCONTINENCE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

TITLE

The Introduction of the Urogynae MDT in SHSCT and its impact on patient selection for mesh incontinence surgery

The concept of mesh for incontinence surgery has been around for many decades but TVT/O replaced the burch colposuspension in mid 2000s as the gold standard

There has been significant improvement for many patients with objective improvement of symptoms 90%. However, a small no of patients have suffered from complications and given the extent of the media coverage and the platform social media has given these women to voice their concerns, gynaecologists have had to evaluate their practice and one way of addressing this is MDT.

SHSCT in Northern Ireland introduced the urogynaecology MDT in August 2016 and involves Physiotherapists, continence advisors, urologist, urogynaecologists and admin staff

The aims of the study include

- assessing compliance with NICE guidance,
- has urogynae MDT resulted in a change in patient selection for mesh surgical procedures
- identify whether changes in practice has resulted in fewer mesh complications and
- identify if introduction of MDT has streamlined patient appointments

MATERIALS AND METHODS

Standard

- NICE guideline urinary incontinence
- SHSCT MDT proforma

Patient selection

- Retrospective
- 20 patients 2015 pre MDT
- 20 patients 2017 post MDT

RESULTS

Patient demographic-

- average BMI- 2015 29.1, 2017 25.3
- average age- 2015 50.8, 2017 48.4
- previous continence procedures- 2015 20%, 2017 0%
- mesh procedure- 2015 TVTO 80%, 2017 TVT 90%
- Pre op physiotherapy- 2015 90%, 2017 100%
- Pre op urodynamics- 2015 100%, 2017 95%
- Post op follow up- 2015 85%, 2017 95% range 6 weeks-9 months
- Post op complications- 2015 40%, 2017 0%
- Average number Pre op gynae clinic appointments- 2015 3.45, 2017 2.33

INTERPRETATION OF RESULTS

- Statistically significant decrease in post operative complications since introduction of MDT
- Statistically significant decrease in number of pre op gynae clinic appointments resulting in a more stream lined service
- Decrease number of surgeons performing mesh continence procedures allowing for adequate surgical workload to maintain skills however no surgeon was reaching the quota of 20 procedures per year.
- All patients having pre op physiotherapy
- all patients are offered post op follow up but given the pressure in gynae clinics, patients are not all being seen within 6/12

CONCLUSIONS

- Vast improvement in the standardisation of care for patients being selected for TVT
- Statistically significant decrease in number of GOPC visits
- Statistically significant decrease in post op complications
- More streamlined service
- Risk in loss of skills due to decrease in number of TVTs being performed

- Need for standardised post op review in GOPC (within 6/12)

REFERENCES (max. 3)

- NICE guideline- urinary incontinence

155 - SURGICAL MANAGEMENT OF MESH RELATED COMPLICATIONS FOLLOWING PRIOR SURGERY FOR URINARY INCONTINENCE OR PELVIC ORGAN PROLAPSE: EXPERIENCE OF A TERTIARY UROGYNAECOLOGY CENTRE IN UK.

smita rajshekhar (1) - Zaina Salahuddin (1) - Richard Flint (1) - Ganesh Thiagamoorthy (1) - Dudley Robinson (1) - Linda Cardozo (1)

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INTRODUCTION AND AIM OF THE STUDY

Mesh complications as a result of previous pelvic reconstructive surgery, are an increasingly common indication for referral to tertiary urogynaecology centres. The aim of our study was to evaluate the patients who were referred to us with mesh-related complications and their treatment outcomes following mesh removal.

MATERIALS AND METHODS

We searched our surgical database for all patients who had removal of tape or mesh used in the treatment of urinary incontinence and pelvic organ prolapse. The following data were collected – patient demographics, type of mesh inserted, symptoms prompting referral, initial investigations, details of surgery for mesh removal, additional treatment and functional outcomes of treated patients. Symptoms severity was assessed using validated questionnaires.

RESULTS AND INTERPRETATION

35 patients underwent mesh excision procedures over a period of 5 years (2013-2017).The median age was 65 years (45-80), the median BMI was 28.5 (22-40) and majority of the patients were post-menopausal (94%). Five patients were current/previous smokers (14%) and six patients had diabetes mellitus (27%).

25 patients had an eroded tape following a transvaginal incontinence procedure (18 retropubic and 7 transobturator) and 10 patients after a prolapse repair (7 vaginal mesh and 3 sacrocolpopexy mesh). Thirty-one patients had vaginal mesh exposure and four patients had bladder mesh perforation. The median time interval between insertion of mesh and diagnosis of erosion was 4 years (1-11y). 7 patients (20%) had more than one mesh excision procedure.

The presenting symptoms were: vaginal bleeding and discharge (31%), dyspareunia (29%), pelvic pain (26%), overactive bladder (34%), stress incontinence (11%), mixed urinary incontinence (14%), recurrent UTI (23%) and voiding dysfunction (9%). All patients were offered vaginal oestrogens and conservative therapies like bladder retraining and pelvic floor physiotherapy before undergoing excision of exposed mesh. Bladder perforation was managed jointly with urology.

Symptoms like vaginal bleeding and discharge (90%) and dyspareunia (80%) resolved in a significant proportion of patients after surgery. Two thirds of the patients had improved pelvic pain and three patients with persistent pain were managed by topical anaesthetic gel, steroid injections and referral to the pain clinic. Interestingly, two patients with persistent pain were diagnosed to have fibromyalgia and one patient had chronic pelvic pain prior to mesh insertion. In terms of LUTS, recurrent UTIs (88%) and voiding dysfunction (100%) improved following mesh excision. Persistent urinary symptoms needing further treatment were common – 25% had detrusor overactivity and 23% had urodynamic stress incontinence. Five patients developed recurrence of stress urinary incontinence after tape excision and two of them subsequently underwent colposuspension.

CONCLUSIONS

Vaginal bleeding, discharge, dyspareunia, pelvic pain and overactive bladder symptoms were the most common presenting symptoms in our patients with mesh complications. The majority of patients reported resolution of symptoms, following excision of eroded mesh. A significant proportion of patients will need further treatment for persisting urinary symptoms, including further surgery. Careful evaluation of factors increasing risk of mesh related complications and exclusion

of detrusor overactivity and voiding dysfunction in patients undergoing incontinence procedures, is imperative before considering mesh placement. It may be unwise to insert tapes or meshes in patients with underlying chronic pain syndrome.

156 - INTRODUCTION OF THE LAPAROSCOPIC APPROACH TO SACROCOLPOPEXY AND SACROCERVICOPEXY IN A DISTRICT GENERAL HOSPITAL

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INTRODUCTION AND AIM OF THE STUDY

Guidelines on the use of mesh in gynaecological procedures have been recently updated (1). These come in the wake of campaigns to raise awareness on mesh complications. A laparoscopic approach to sacrocolpopexy was introduced to Craigavon District General Hospital, Northern Ireland on 9th March 2015. We describe our experience with the laparoscopic approach. Specifically; procedure times, objective satisfaction, urinary symptomatology and mesh complications.

MATERIALS AND METHODS

Retrospective data was collected between 9th March 2015 and 17th October 2017. Electronic records were reviewed to complete follow-up data, including the Northern Ireland Electronic Care Record (NIECR) and the Theatre Management System (TMS). 10 patients were identified; 1 patient had the procedure abandoned due to dense bowel adhesions, 1 patient had a missing chart and 1 patient awaits the procedure. 6 laparoscopic sacrocolpopexies and 1 laparoscopic sacrocervicopexy were identified.

RESULTS

Average age and parity were 57 years and para 2 respectively. Of note, all patients were consented by a Consultant Urogynaecologist, however, mesh erosion and vault prolapse risks were not documented specifically. Average operation time was 2 hrs 31 minutes and no intra-operative complications were noted. Pre-operative and post-operative POP-Q staging by compartment (Figure 1) and Paired t-test results (Figure 2) are represented below. Statistically significant prolapse stage improvements were seen in anterior and cervical/ cuff groups (p=0.016, p=0.003 respectively). 86% of patients reported subjective improvement (patient comment).

Figure 1 – Stacked Column Chart to show Pre-operative and Post-operative POP-Q Prolapse Stage by compartment

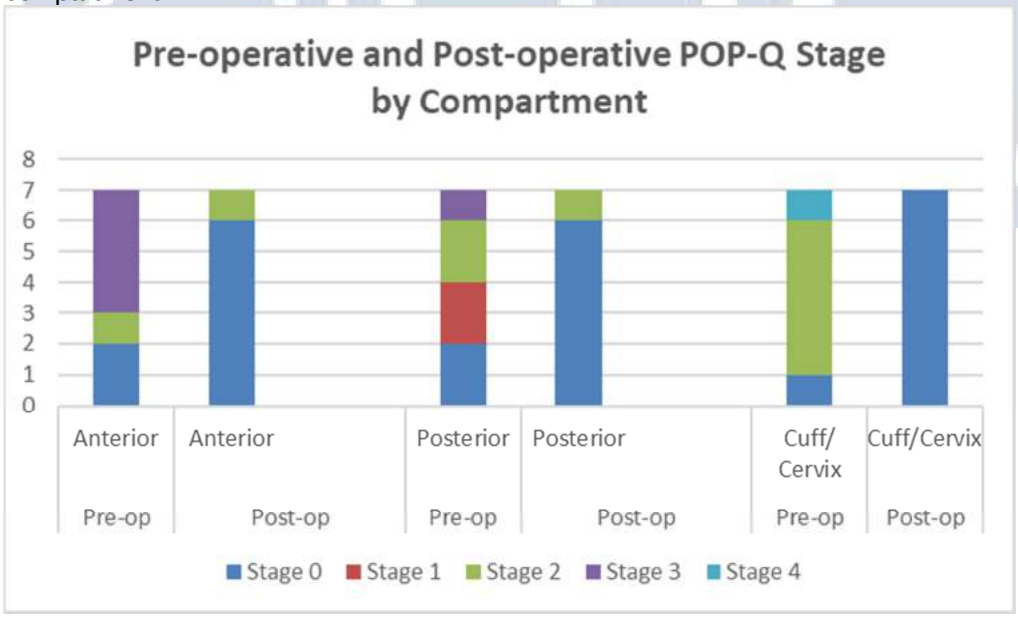

Figure 2 – Paired t-test by Prolapse Compartment

	Pre-op	Post-op	Pre-op	Post-op	Pre-op	Post-op
Patient	Anterior	Anterior	Posterior	Posterior	Cuff/ Cervix	Cuff/ Cervix
1	3	0	1	0	0	0
2	2	0	1	0	2	0
3	3	2	0	0	4	0
4	0	0	2	0	2	0
5	3	0	0	0	2	0
6	0	0	3	0	2	0
7	3	0	2	2	2	0
t-test	0.01669		0.061835		0.003760309	

A higher rate of new urgency and urge urinary incontinence was noted (both 29% in our group, <10% in guideline). There have been no identified cases of mesh erosion.

INTERPRETATION OF RESULTS

No significant difference was seen in the posterior compartment group. This may be due to small numbers in this series. The higher rates of new urgency and new urge urinary incontinence would be difficult to predict in the future given no prior history of same. Patients should be made aware of this. First line interventions have been initiated in these cases and further follow-up and continuing audit is warranted.

CONCLUSIONS

Laparoscopic Sacrocolpopexy and laparoscopic sacrocervicopexy appear safe and effective provided that standard arrangements for governance, consent and audit are in place. The risk of new urinary urgency appears higher in this population. Full counselling with good patient selection is required.

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157 - PROLAPSE SURGERY AND SEVERE COMORBIDITIES: SINGLE CENTRE EXPERIENCE WITH POPS

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INTRODUCTION AND AIM OF THE STUDY

Overall lifetime risk of surgery for pelvic organ prolapse(POP) is around 11%: due to improvement in Anesthesiology there is a chance for surgery even for elderly patients. Nevertheless, patients with severe comorbities are not eligible for gold standard laparoscopic surgical approach (sacropexy); for these patients, minimally invasive surgery still an option, with laparoscopic techniques such as Dubuisson's lateral suspension or POPs. In this procedure, a polypropylene mesh is anchored to uterine anterior isthmus while the lateral arms are pulled through the anterior abdominal wall in the retroperitoneal space and finally suspended to lateral abdominal subcutaneous tissue. The rational is to mimic the natural lateral suspension of the Mackenrodt cardinal ligament with shorter operating time compared with traditional laparoscopic sacropexy.

MATERIALS AND METHODS

We retrospectively review threee cases occurred at our Institution (SCDU2U, Obstetrics and Gynaecology Department, S.Anna Hospital, Turin) between 2016-2018. All three patients were relatively young, presented severe comorbidities and standard sacropexy was contraindicated by Anesthesist: Dubuisson lateral laparoscopic suspension was offered after proper counseling and written informed consent was obtained. Under general anesthesia, umbilical trocar was inserted with open technique, pneumoperitoneum set up and 3 ancillar trocars inserted. First surgical step was dissection of vescico-vaginale space. T-shaped polypropylene mesh (central square part 4x6 cm, lateral arms 2x18 m each) was inserted through 10 mm trocar. Central square portion is then secured to anterior uterine isthmus with 4-6 adsorbable sutures. A 3-mm skin incision is made on both sides 2 cm above the iliac crest and 4 cm posterior to the anterior superior iliac spine allowing the introduction of a laparoscopic grasping forceps. Under transperitoneal visualization, performing retroperitoneal tunnelling, the instrument is then pushed toward the round ligament at the level of its lateral peritoneal insertion. After entering the peritoneal cavity, the side arms of the mesh can be grasped, retracted the same way backwards and the tension adjusted. By this procedure we provide symmetrical lateral tension-free suspension of the central mesh part attached to the vagina. The side arms are then cut at the level of the skin and the peritoneum is closed over the graft so as to cover it completely. Lateral attachment is provided by retroperitoneal fibrosis over the side arms.

Case 1: 72-year old patient, parity 3003, prolapse score according to Baden-Walker Half Way System (HWS) A4C4P4 (stage 4 for anterior, central, posterior compartment), invalidating bulging symptoms, previous myocardial stoke on oral anticoagulant therapy, patient wasn't coping with vaginal pessaries.

Case 2: 44-year old patient, parity 1001, HWS prolapse score A4C4P4, diagnosed with *NEMO* deficiency *syndrome* (complex *rare type of primary immunodeficiency* caused by genetic mutations in the X-linked *NEMO* gene) and autoimmune connective tissue disease, on anti-aggregant therapy. After a term vaginal delivery, a deep pelvic haematoma occurred, with necessity of drainage and second repair, severe anemia and blood transfusion. At postpartum check, POP was noticed, with strong bulging and obstructive symptoms. First line conservative attempt with vaginal pessary was unsuccesfull, so surgery was offered.

Case 3: 70-year old patient, parity 2002, HWS prolapse score A4C4P2, with severe urinary obstruction. Patient had a cerebral stroke only two years before and she was on anti-aggregant therapy. Conservative treatment with vaginal passary was unsuccesfull.

RESULTS

For our three patients, details of surgical procedures, hospital stay and follow up are listed below in Table

Table1

	POPs operating time (mins)	Associated procedures	Hospital stay (days)	Follow up time (months)	HWS prolapse score before surgery	HWS prolapse score after surgery
Case 1	50	Bilateral salpingo-oopherectomy	4	25	A4C4P4	A1C1P0
Case 2	60	SLH, cistopexy	4	22	A4C4P4	A1C1P1
Case 3	45	Midurethral sling (TOT)	3	3	A4C4P2	A0C0P0

All patients were asymptomatic at follow up visit.
Trendelemburg degrees were not more than 20° during POPs procedure

INTERPRETATION OF RESULTS

Dubuisson's laparoscopic lateral suspension technique allows a reduction of operating times compared with laparoscopic histero and cervical sacropexy. Bojahr et al reported mean operating time of 110 minutes for histerosacropexy and 121 minutes for cervical sacropexy, which are about two times longer compared with our results for POPs. Moreover, traditional laparoscopic sacropexy requires higher degrees of Trendelemburg to gain access to sacral promontorium (30° sacropexy versus 20° for POPs)

CONCLUSIONS

Both time and Trendelemburg affect patient's cardiac outoput and blood pressure, increasing risk of intra and postoperative complications. When patients with severe comorbidities and high-grade symptomatic prolapse require surgery, Dubuisson's laparoscopic lateral suspension might be a feasible alternative to traditional laparoscopic sacropexy, due to shorter operating time and reduced Trendelemburg degrees.

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158 - LAPAROSCOPIC NATIVE TISSUE REPAIR COMBINED WITH PECTOPEXY FOR SEVERE PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Most patients presenting with genital prolapse, mostly rectocele and cystocele, also suffer from apical descent, which require a combination of procedures in order to achieve full resolution of their symptoms. There has been considerable controversy regarding the use of vaginal mesh repair as there have been numerous reports of adverse effects. Thus natural tissue repair has been gaining more favor in recent years.

The gold standard surgical solution for apical prolapse has been laparoscopic sacrocolpopexy for over 20 years. This technique has been proven to be highly efficient but also carries risk of complications, primarily defecation disorders. Compelling evidence in favor of pectopexy as an alternative surgical technique has accumulated in recent years. However, most of the published reports concerned low-risk patients and patients with high likelihood of intra-abdominal adhesions were excluded. The aim of this work is to report our experience with laparoscopic pectopexy combination surgery with anterior and posterior laparoscopic colporrhaphy in thirteen patients suffering from severe pelvic organ prolapse, most having a prior abdominal surgical history.

MATERIALS AND METHODS

Laparoscopic pectopexy for pelvic organ prolapse POPQ stage three to four, in combination with one or more of the following: laparoscopic anterior and posterior colporrhaphy, and subtotal hysterectomy were performed on thirteen patients, most of whom have had previous abdominal surgery. Data were gathered and analyzed from the medical records.

RESULTS

The surgical procedures were successful, with good clinical outcomes. One case of bladder injury was related to adhesion dissection and not directly related to the pectopexy procedure. Organ prolapse was successfully resolved in all patients. No de novo defecation disorders, incontinence or pelvic organ prolapse were noted during a six month follow up period.

INTERPRETATION OF RESULTS

Laparoscopic native tissue repair combined with pectopexy allows to reduce mesh loading compared with sarcocolpopexy, retains pelvic space with minimal antomical distortion of the vaginal walls and bowel.

CONCLUSIONS

Laparoscopic pectopexy with natural tissue repair (laparoscopic anterior and posterior colporrhaphy) shows promise as a safe alternative to the conventional sacrocolpopexy technique for organ prolapse repair, with several advantages. We present encouraging results for using pectopexy in high-risk patients with severe combined pelvic organ prolapse.

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159 - TREATMENT OF FEMALE STRESS URINARY INCONTINENCE WITH VAGINAL ERBIUM LASER: SINGLE CENTRE EXPERIENCE OF LONG-TERM EFFICACY

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AIM OF THE STUDY: The aim of the study is to evaluate the long-term effectiveness of minimally invasive non ablative Er:YAG laser therapy for stress urinary incontinence. MATERIALS AND METHODS: We enrol patients affected by SUI undergoing to our Urogynecological centre in Lucca. Patient's age varies from 34 to 80 years old. All subjects are treated with vaginal erbium laser (VEL). Follow up visits (clinical examination and ICIQ-UI SF) are performed 1, 3, 6, 12, 24 months after the last laser session.
RESULTS: Our results show a statistically significant improvement of SUI at the end of the treatment, persisting for 6 month after the procedure with a worsening during years. However, the severity degree achieved after 2 years is inferior as compared to the situation before VEL. Stratifying data on ICIQ-UI SF score at the beginning of consultation (mild, moderate, severe, very severe), this trend of benefit is particular evident in the moderate and severe groups so VEL therapy could be consider an alternative to surgery.Laser procedure is well tolerated and side effects are few and transient.
DISCUSSION: Our analyses show that VEL in non ablative way can reduce the symptoms of SUI both in patients with moderate or severe degree of disease. Due to this patients are highly satisfied with clinical benefit and the quality life obtained by the treatment even if only for avoiding surgical treatment.
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160 - VALIDITY, RELIABILITY & NORMATIVE DATA OF ASSESSMENT TOOLS

MEASURING PELVIC FLOOR MUSCLE FUNCTION IN MEN WITH LUTS IN THE PRESENCE OF BENIGN PROSTATE ENLARGEMENT.

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INTRODUCTION AND AIM OF THE STUDY

Benign prostatic enlargement (BPE) is a common non-malignant condition among older men and one of the factors associated with lower urinary tract symptoms (LUTS). Other factors such as over- and underactive bladder and over-activity of pelvic floor muscles are also related to LUTS, the so-called 'functional LUTS'.
An effective conservative intervention in case of a 'functional LUTS" is pelvic floor muscle function exercises combined with information and lifestyle advices. This intervention will be based on conclusions drawn from assessment of pelvic floor muscle function. However, in case of a BPE it is not known if validity, reliability or diagnostic accuracy of measurement tools assessing pelvic floor muscle function, remains the same. This seems important since for instance Intra rectal electromyography will lead to different findings if the surface electrodes will be compressed by the BPE. The same holds for Digital Rectal Examination. Does the examiner come to the same conclusions on pelvic floor muscle function in the presence of BPE. Since in men with LUTS complains above 50 years > 48% also have a BPE, either or not causally related to LUTS complaint, it is relevant to determine the best instrument to measure pelvic floor muscle function in the presence of BPE as a basis for conservative care.

AIM

Aim of this systematic review is to perform a meta analysis on validity, reliability and diagnostic accuracy of measurement tools to examine pelvic floor muscle function (available in primary care) in the presence of BPE.

MATERIALS AND METHODS

A systematic search has been performed according to the PRISNA statement Three databases were searched MEDLINE, Embase and CINAHL, from September 2016 till March 2017. Two reviewers independently scored all titles, abstracts and full texts for eligibility. In case of disagreement a third reviewer would make a final decision. 4 reviewers using the COSMIN list performed a methodological quality assessment. A priori it was defined that only fair to good quality studies on the Cosmin list would be used for quantative analysis.

RESULTS

The search string retrieved 2772 citations. After check for duplications 1977 citations remained. After the first check for eligibility on title, according to the inclusion and exclusion criteria, 952 references remained. Observed agreement $K_w = 0{,}893$. The second check on abstract rendered 117 articles with a weighted observed agreement of 0.930. The third screening on eligible full texts resulted in 20 available full texts. The observed agreement was $K_w = 0{,}915$.

INTERPRETATION OF RESULTS

Full texts articles included the following measurement tools: Emg surface electrode, pelvic floor ultrasound, digital testing Pelvic Floor muscles, questionnaires, maple, transperineal ultrasound.

All included studies scored poor on the COSMIN. None of included full texts described difference in psychometric qualities between men with LUTS with or without BPE.

CONCLUSIONS

There is a lack of knowledge on psychometric quality of assessment tools for pelvic floor muscle function in men with LUTS with or without the presence of BPE. Recommendation for further research is to report on PFMF in patients with LUTS either or not related to BPE. More studies should focus on psychometric quality of assessments tools for PFMF in men with and without BPE*.*

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161 - NEW CHALLENGES IN THE TREATMENT OF ENDOMETRIOSIS IN THE INTEGRATIVE APPROACH OF PELVIPERINEOLOGY AND UROGYNECOLOGY.

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Summary

Endometriosis today presents a major public health problem. In treating endometriosis, the concept of pelviperineology brings us new perspectives and possibilities. Endometriosis problems, especially deep pelvic endometriosis, must be observed multidisciplinary. Pelvipeinology brings new quality and integral approach to this problem. Through the foundation of the Croatian Society for Pelviperineology, we open up the paths, embark on comprehensive education, with the aim of satisfying and improving the quality of our work. The minimal invasive approach in pelviperineology, and therefore in the treatment of endometriosis, is therefore the first place. Precisely for this reason, pelvperineology represents a challenge to be accepted, as it has additional choices in the diagnosis and treatment of endometriosis patients as well as numerous other pelvic diseases.

Introduction

In more than half of patients with deep pelvic endometriosis who infiltrated rectovaginal septum find and rectal lesions. In this anamnesis infertility is found in over half of patients with deep pelvic endometriosis. The method of choice for treatment of deep pelvic endometriosis is operating, due to the reversible effects of drug therapy. When this is the laparoscopic approach today has become the gold standard in the treatment of endometriosis in the reproductive period. And the treatment of endometriosis laparoscopic bowel treatment is the primary choice, considering all the advantages over conventional surgical approach. When it is necessary multidisciplinary approach and meticulous training with superior operating technique, which confers long-term and continuous improvement. The advantage of the laparoscopic approach compared to the traditional surgical approach is faster postoperative recovery and insurance later incomparably better quality of life. In view of their results, we analyze the experience of thirty years of practicing endoscopic surgery, by reference to the issue of endometriosis in women of reproductive age, underwent surgery in the Department of Gynecology and Obstetrics, General Hospital Zabok hospital and Croatian veterans. Of particular importance is the fact that endometriosis is a growing problem due to the younger age groups in which they develop, as well as considering that in all younger age groups occur and cases of more advanced disease. Also in everyday work and we meet with the increasing incidence of women due to certain socio-economic and professional conditions delaying conception and this is one of the current momentum with which we encounter daily. In this context it is particularly important moment and preserving ovarian reserve as very significant reproductive parameters. During the said period of thirty years, we could experience a number of challenges laparoscopic treatment of endometriosis, which in the reproductive period of women, given recent demographic indicators, gaining increasing importance.

Deep infiltrating endometriosis in the reproductive age

The problem of deep pelvic endometriosis each day presents an increasing clinical challenge. What is evident from the literature is the fact that in over half of patients with deep pelvic endometriosis that infiltrates the rectal vaginal septum are also endometriotic lesions of the rectum. Likewise, we find infertility in more than half of patients with deep endometriosis of the rectum vaginal septum. It is unthinkable that laparoscopy is the method of choice for the treatment of deep pelvic endometriosis due to the reversible

effects of drug therapy. Today, laparoscopy has become a gold standard in the treatment of endometriosis in the reproductive period. Likewise, in treating endometriosis of the intestine, laparoscopic treatment is a primary choice, considering all the benefits of a classical surgical approach. In the above mentioned cases, an essential multidisciplinary approach to this meticulous operator training is required, with top-of-the-line operating techniques, achieved through long-term and continuous improvement. It is certainly the advantage of laparoscopic approach to the classical surgical approach, and the faster postoperative recovery of the patient and the significantly lower morbidity. In almost thirty years of endoscopic surgery at the Department of Gynecology and Obstetrics of the General Hospital of Zabok and the Croatian Veterans' Hospital, there are especially important problems of endometriosis in the reproductive age, especially the more difficult forms, in all the younger age groups. All this brings us new challenges, as a large number of patients with deep pelvic endometriosis in the anamnesis have verifiable infertility. We are increasingly confronted with an increasing number of women who postpone the concept. The causes are most commonly: social, economic and professional. Because of these causes, women become pregnant later. The older age of pregnant women presents us with great challenges in our day-to-day work, both on the part of our gynecologists and on the part of our patients. Everyday, more and more complex forms of deep pale endometriosis occur more and more frequently. This is a growing challenge for gynecologists in the preservation of ovarian reserve, which is a very significant reproductive parameter in our patients. Exact laparoscopic therapy of deep dermal endometriosis is certainly a method of choice for treating a patient in the reproductive age.

Perspectives of Pelviperineology

Pelviperineology is a multidisciplinary field of medicine. It integrates many medical disciplines. Pelviperineology does not only point to the issue of female genital tract. It looks and treats the patient and the patient integrally. In his posture, pelviperineology is indeed an example of integrative medicine. It penetrates and connects a variety of professions such as urology, physical medicine, neurology, internal medicine, abdominal and pelvic surgery, endocrinology, anatomy, physiology, pathology, pathophysiology, oncology, and fetal medicine and gynecology with all their subspecialties. In these settings, the patient and his illness are not observed separately but are integrative, allowing for better treatment results.

All of this has inspired us to establish the Croatian Society for Pelviperineology. The Society gathers experts of many health profiles. His goal is to improve daily clinical practice in the field of pelviperineology and pelvic surgery. The main reason for setting up the Croatian Society for Pelviperineology is the comprehensive education of health professionals. The goal of society is also comprehensive education of the whole community. Our mission is to inaugurate the integrative approach of pelviperineology in everyday practice clinics. Our desire is to raise awareness and educate, we create preconditions for a healthier population, both in women and in men. It is precisely the interest of our patients that is primary in our endeavors. The Croatian Society for pelviperineology was founded precisely for the purpose of helping our patients. We hope that the successful organization of the first mediterranean Meeting of pelviperineology and pelvic surgery, will be the beginning of a successful path, which for the ultimate goal has the satisfaction of our patients.

Conclusion

Endometriosis problems, especially deep pelvic endometriosis, must be observed multidisciplinary. Pelvypeinology brings new quality and integral approach to this problem.

Through the foundation of the Croatian Society for Pelvicology, we open up the paths, we embark on comprehensive education, with the aim of satisfying and improving the quality of our work. The minimal invasive approach in pelvypeinology, and therefore in the treatment of endometriosis, is therefore the first place.

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162 - ANTICHOLINERGIC BURDEN; A LOAD TOO HEAVY TO BEAR?

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INTRODUCTION AND AIM OF THE STUDY

Anticholinergic medications are second line in the management of overactive bladder (OAB)[1]. These and many other commonly prescribed medications have anticholinergic properties. In patients over 65 years of age these can cause adverse events, such as confusion, dizziness and falls and have been shown to increase mortality. A score of 3+ on the Aging Brain, Anticholinergic Burden (ACB) scale is associated with an increased cognitive impairment and mortality[2].

The aim of this study is to gain information regarding our tertiary urogynaecology department's average anticholinergic burden score and which subset of patients score the highest. This will then enable us to tailor our prescribing to avoid excessive anticholinergic load and allow us to gain valuable information into the population we are treating.

MATERIALS AND METHODS

This is a prospective observational study of women attending a tertiary urogynaecology unit for their routine outpatient appointment. Patients were seen as new referrals from either primary or secondary care and as follow-ups from within the department. All women were asked standardised questions pertaining to their presenting symptoms and duration of symptoms. A copy of their medication history was obtained either verbally or from their referral letter. Names and durations of medications were documented and these were then cross referenced with the Aging Brain Care criteria to give an anticholinergic burden score. Patients were asked about current medical problems and if there was any family history of dementia. Results were collected then analysed using SPSS (version 24). Correlation was performed using Kendall's tau-b method.

RESULTS

A total of 53 women were consecutively recruited from May - June 2018. The mean age was 55.6 years (range: 15- 87 years) with a mean duration of symptoms of 8.6 years (range: 1- 50 years). The most common presenting symptoms were OAB.

Considering the total number of drugs taken by a patient, the average number was 3 (range: 0 -12 drugs). The average anticholinergic burden score was 1.26 (range: 0 -7). Regarding a family history of dementia 5 of the 53 patients had a positive family history.

With advancing age, we found an increase in the number of medications taken (0.457, P=0.000). As patients advanced in their years their anticholinergic cognitive burden score also increased (0.251, P=0.019). There was no correlation between duration of symptoms and score.

INTERPRETATION OF RESULTS

We have shown that with greater age, patients have rising polypharmacy and worsening anticholinergic burden score. This is unsurprising as the more medications patients take, the more likely that these medications will have anticholinergic properties.

The oldest patient included in this study was 87 years old. She had a score of 7 and was taking 10 medications. Any score of more than 3 is significant with regard to the possibility of causing cognitive disturbance. Our average score is reflective of prescribing practices within a urogynaecology department. Previous research has shown that Urogynaecologists when compared with general practitioners are more aware of the side effects of anticholinergics and those that are safer to prescribe in the elderly both with and without dementia[3].

CONCLUSIONS

When prescribing medications, we must be aware of their anticholinergic load. This is particularly important when treating the elderly. With advanced age there is an increased prevalence of OAB and therefore more likelihood of requiring antimuscarinic therapy. In addition, polypharmacy and an increase in anticholinergic scores have a mutual increment with age, as demonstrated in our study, only adds to the risk of overburdening a patient.

This study has enabled us to review the average anticholinergic score for our population, thus making us more aware of the burden imposed on them. It has added weight to what is already known regarding anticholinergic load and the elderly. Larger number and subgroup analysis are required to make further observations within this population.

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VIDEO

1-V - TRANSVAGINAL CORRECTION OF ISTHMOCELE: A REPORT OF FIVE CASES

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Background: The most frequently performed surgery in modern obstetrics is cesarean section and its percentage has dramatically increased in most developed countries; in our Institution the incidence of cesarean surgery is approximately 30% to 35%. There is a risk of developing a persistent uterine anterior wall defect, named isthmocele, related to an incorrect wound healing process. There are many obstetric complications of isthmocele, like abnormal placenta (placenta accreta or placenta previa), scar dehiscence and scar pregnancy, especially after embryo transfer in case of IVF, and uterine rupture during pregnancy and delivery procedures. Isthmocele also has been reported to be etiological factor in many gynecologic complications such has abnormal uterine bleeding (postmenstrual spotting), pelvic pain, dyspareunia and secondary infertility, as well as potentially higher risk of complications and difficulties during gynecologic procedures such as uterine evacuation, hysterectomy, endometrial ablation and insertion of an intrauterine device (IUD). Different surgical approaches have been described; however, there is no consensus on which tecniques should be preferred.
Objectives: to describe our experience in the transvaginal repair of isthmocele.
Case report: We present a single center's experience in isthmocele treatment. We treated five patients who complained of abnormal uterine bleeding, pelvic pain and/or secondary infertility and were diagnosed with isthmocele. Patients underwent a transvaginal repair of isthmocele performed under regional anaesthesia; they were discharged the day after the operation. At a 3-month follow-up, transvaginal ultrasound revealed a uterus with a normal supraisthmic area at the level of the previous cesarean section scar. All our cases, in fact, didn't present an anechoic area in the anterior uterine wall any more and had a normal myometrial thickness. Furthermore, all patients were asymptomatic and satisfied with the treatment.

Conclusions: Transvaginal approach is a feasible and effective modality to repair symptomatic isthmocele with a minor possibility of surrounding organs injury, less postoperative pain, faster recovery, a shorter hospital stay and lower costs.

2-V- ATYPICAL PRESENTATION OF LABIAL ADHESIONS

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INTRODUCTION AND AIM OF THE STUDY

Labial adhesions usually present as a posterior fusion of the labia minora that may extend anteriorly all the way to the level of the urethra. Labial adhesions are almost exclusively encountered in hypo-estrogenic conditions, such as pre-pubertal girls or post-menopausal women.

The video presented describes the clinical presentation and surgical treatment of a case of labial adhesions that occurred anteriorly, totally covering the urethra and introitus, in a 19 year old girl, without any evidence of hypo-estrogenism, trauma, or inflammation.

Symptoms included urinary intermittency and weak flow that get worse during menstruation. In addition, she had post-void postural incontinence. The patient had also a pre-clitoral rollable cystic structure suspected to consist of “trapped” menstrual blood (figure 1).

MATERIALS AND METHODS

The clinical case is presented along with MRI findings, followed by the video of the surgical repair.

Prior to anesthesia, patient was asked to void to show the urine emitting from the only orifice, about 3 centimeters anterior to the anus (figure 2).

Endoscopic visualization of the vagina, urethra and bladder was performed, followed by surgical repair of the introitus.

RESULTS

Surgical treatment relieved the patient’s urinary and menstrual symptoms, with a satisfactory cosmetic result (figure 3).

INTERPRETATION OF RESULTS

The visualization of normal internal anatomy ruled out the possibility of a congenital urogenital anomaly. Adhesiolysis of labia minora was performed with restoration of the normal anatomy distal to the hymen.

CONCLUSIONS

Labial adhesions may rarely occur in atypical fashion, starting anteriorly, and even without any predisposing factor. Pre-surgical assessment is warranted to rule out congenital malformations. Pre-menarchal identification and treatment may prevent menstrual flow and micturition dysfunction. Surgical treatment is recommended in such cases.

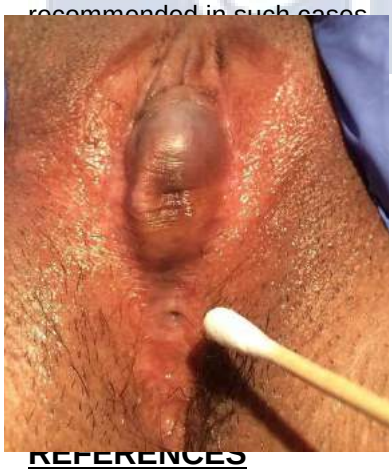

Figure 1 – Initial presentation
(Cotton tip pointing to an orifice about 3 centimeters anterior to the anus)

Figure 2 – Urine emitting from the only orifice (Arrow)

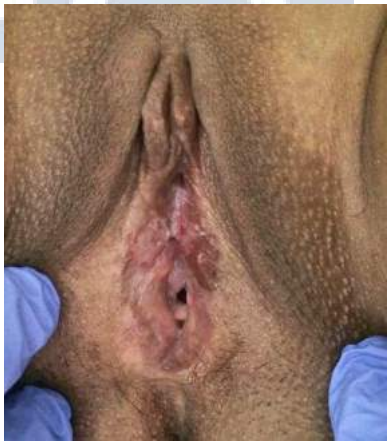

Figure 3 – 8 weeks post operatively

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3-V - *LAPAROSCOPIC COLPOSACROPEXY SUTURE-SPARING WITH CYANOACRYLATE SUPPORT*

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INTRODUCTION AND AIM OF THE VIDEO

Sacropexy is an abdominal-prolapse repair that restores pelvic anatomy by attaching graft material between the vagina and sacrum. It was first described by Lane in 1957[1]. Laparoscopic sacropexy as been reported by a number of authors and has shown comparable medium-term efficacy to traditional open approaches with reduced pain, decreased intraoperative blood loss and length of hospital stay, and shorter recovery time. Also, the selection of the correct mesh attachment point (apex, anterior, or posterior vaginal wall or sacrum) is crucial to minimize the risk of cystocele, rectocele, or enterocele recurrence. The aim of the video is to assess the safety and efficacy of n-hexil/cyanoacrylate (IFABOND peter surgical) to support polypropylene monofilament mesh(HALBAMESH Dipromed), in abdominal laparoscopic sacrocolpopexy. to reduce the surgical time and the post operation time. we report owner experience in 3 cases with short term follow-up.

MATERIALS AND METHODS

from December 2017 to January 2018, we performed 3 case of symptomatic apical prolapse in woman with pregress hysterectomy, The stage of genital prolapse was classified according to the simplified International Continence Society (ICS) Pelvic Organ Prolapse Quantification (POP-Q), which graded the severity of prolapse at points Ba, Bp, C and D, following the recommendations of the ICS [2], all the patient had stage 3, and non-obstructed ad urodynamic flow-pressure curve (ICS graphic nomograms). We used 4 trocar ports, with open technique, 1.5-cm incision is made inside the umbilicus for the camera and three for laparoscopic tools (two tools of 5 mm and one of 11 mm in diameter). The laparoscopic tools can be ordinary ones, including all energy sources. sacropexy with regard to 3 varying mesh attachment points: the vaginal anterior wall, the apex , and the posterior side. Insufflation is performed as for any laparoscopic surgery.. Dissection of apex and peritoneum is done with ultrasound energy, we start with Anterior dissection refers to opening of the uterovesical pouch and dissecting of the bladder while exposing the upper part of the anterior vagina, the posterior dissection of recto-vaginal pouch until the levator ani muscles are reached and the para-rectal fossae on both sides are opened wide, The exposure of the sacral promontory was performed by a passing needle through the abdominal wall to capturing the sigmoid fat and coming out again through the abdominal The peritoneum is opened along the rectum from the promontory towards the pouch of Douglas (we create before a tunnel under the peritoneum to have a right direction)

Implantation of the mesh:

We use a partially composite HAlbaMesH prosthesis composed by two layers of polypropylene monofilament (120 µm) is a polypropylene, ultra-light/light, transparent, surgical prosthesis. is a macroporous Y-mesh one of which is partially coated with a transparent, non-absorbable, polypropylene film, to minimise adhesions. The anterior arm of the mesh is attached to the anterior

vagina on the lateral sides to minimize the risk of necrosis and erosion into the vagina, this part was suture-less we applicate just n-hexil/cyanoacrylate glue, for the posterior arm we used 2 sutures of 3-0 poliglecaprone 25 (monocryl ethicon), the fixation of the mesh to the promontory is done with four 4-mm titanium staples,designed for rigid tissue. The final step is closing the peritoneum

with a continuous suture and the pouch of Douglas with a purse string suture (VLock of covidien),

.

RESULTS

the operation mean time was of 58 minutes, without bloodless, the hospitalization time was of 3 days, the post-operation pain measured by VAS(visual analogic scale) with mean pain of 2, after 4 month of follow-up we didn't had genital prolapsed recurrence according to the simplified International Continence Society (ICS) Pelvic Organ Prolapse Quantification (POP-Q), dyspareunia and the patient was satisfied

INTERPRETATION OF RESULTS

the use of Ifabond and Halbamesh is safety and have a sort term efficacy, the operation time is short and the patient pain was low

CONCLUSIONS

it's possible to use this device but we need more long follow-up and RCT to have correct data about the long term efficacy

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4-V - PROSPECTIVE RANDOMIZED TRIAL OF LAPAROSCOPIC SACROCOLPOPEXY WITH LAPAROSCOPIC PECTOPEXY (POST OPERATIVE RESULTS & SHORT TERM FOLLOWUP)

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INTRODUCTION AND AIM OF THE STUDY

The purpose of our study was to compare the outcome of Laparoscopic Sacrocolpopexy with Laparoscopic Pectopexy for apical prolapse.

Sacrocolpopexy has been considered as the gold standard procedure for the repair of apical defect since ages, in terms of reconstitution of a physiologic axis of vagina regarding size, depth & axis . The post operative morbidity of this technique is the defecation disorders and stress urinary incontinence (SUI). Defecation disorders are basically because of less space in pelvis (outlet obstruction), adhesions or injury to hypogastric nerves.

Our technique is the Laparoscopic Pectopexy which utilizes Iliopectineal ligaments for mesh suspension. There is no space restriction and hence defecation disorders are less. The mesh follows natural structures of round ligaments and broad ligaments without crossing bowel, ureter or hypogastric trunk. The height of lateral fixation corresponds to S_2 level which is the same as scarocolposuspension.

As obesity is one of the major risk for vault prolapse it can be challenge for surgery. The sigmoid colon is often enlarged by fatty tissue. In such cases there is less space for the placement of a mesh between vagina and sacrum.

This new repair technique combines the benefits of laparoscopy with the unfavorable condition especially obesity.

MATERIALS AND METHODS

In our study the indication for surgery in both the groups was apical defect. Total number of 68 patients were included in our study. The genital prolapse was assessed by clinical examination and quantified POP-Q (Pelvic organ prolapse quantification).

Our study is a prospective randomized trial to compare the standard laparoscopic sacrocolpopexy with the laparoscopic pectopexy.

Patients with symptomatic primary vaginal prolapse POP-Q>II were included in our study.

All participants were submitted a written informed consent form.

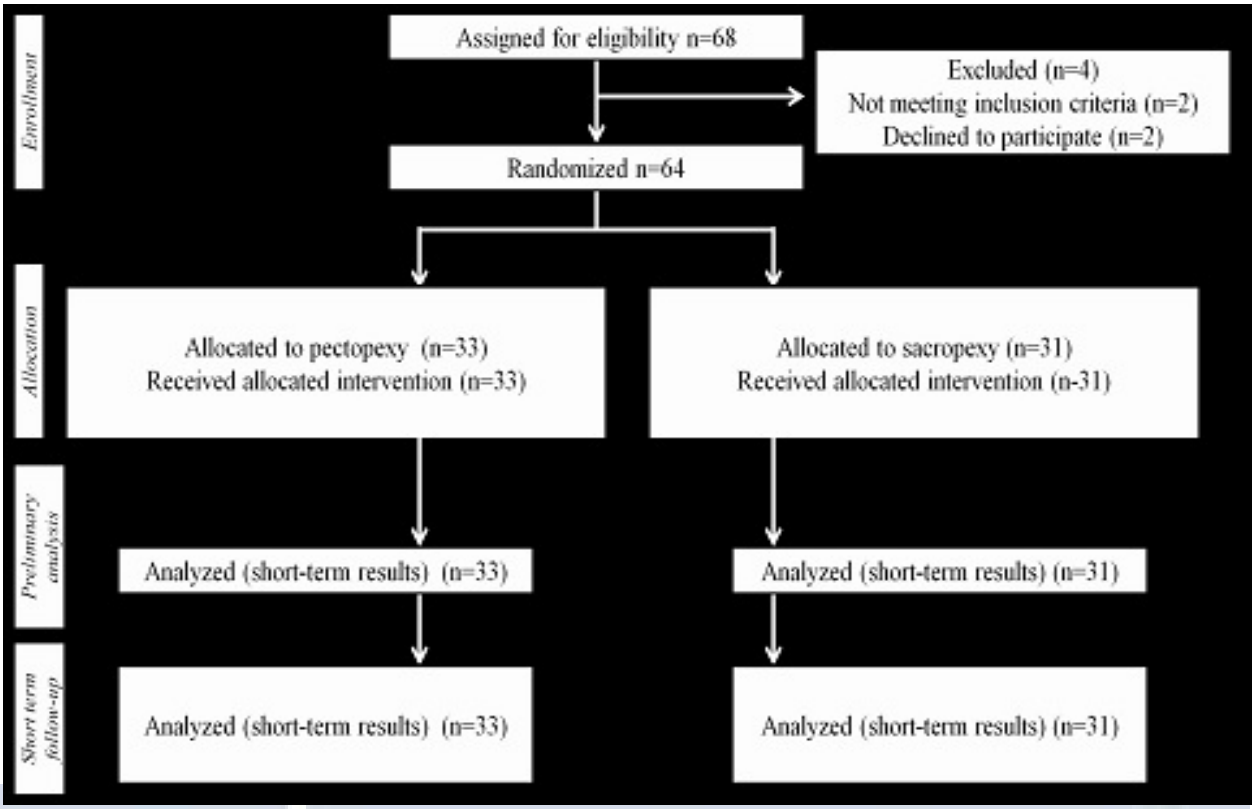
Patients were randomly allocated to both the groups. Follow-up time was assessed using the Mann-Whitney rank sum test. All other parameters were analysed with the Fisher exact test. The level of significance was set at $P<0.05$. Follow-up time was at least 1 year after the surgery. Post operative evaluation comprised of relapse recurrence of apical prolapse as well as the incidence of de novo urgency, SUI, anterior and lateral defects cystocele, rectocele, constipation and backache.

RESULTS

Standard pre-operative Laparoscopic preparation was done for both the groups.

Pectopexy: A superficial oblique incision is given on peritoneum between round ligament and lateral umbilical ligament. After careful dissection external iliac vein is visualized. As we move medially and caudally iliopectineal ligament is visualized which is a white glistening structure. Approximately 4 cm of Coopers ligament is exposed medial to iliopsoas muscle. The same preparation is repeated on the other side. The anterior vaginal wall along with vaginal stump is exposed to a size of 4cm. The central part of the TOT mesh is sutured on the vaginal vault with non absorbable 2-0 ehibond and the other ends are sutured to iliopectineal ligament. Lastly reperitonization is done.

Sacrocolpopexy: The peritoneum over sacral promontory is pulled up and incised. The mesh it attached to longitudinal ligamentat S_2 level and the other end of the mesh is attached to cervical stump or vaginal apex in a tension free manner. Peritoneal closure done.



INTERPRETATION OF RESULTS

- There were no significant difference in the number of patients allocated to both the groups & duration of the follow-up period between the two study groups.
- The short term follow-up showed significantly higher rate of defecation disorder in the sacrocolpopexy group. (None in pectopexy Vs 15.5% in scarocolpopexy group).
- The incidence low back pain was high in sacrocolpopexy group.
- 3 patients developed tubercular osteomyelitis in which steel tackers were used instead of sutures. In 1 patient tackers had to be removed.
- The incidence of De novo urinary stress incontinence was 4.5% Vs 4.8% respectively in both the groups. (Statistically not significant)
- The incidence of rectocele was 9.4% Vs 9.6% in both the groups.
- The apical relapse rate was 2.3% in pectopexy & 4.8% in sacropexy (Statistically not significant).
- All other evaluated parameters revealed no significant differences. The satisfaction rates were high in both the groups.

CONCLUSIONS

Laparoscopic pectopexy is comparable to Laparoscopic sacrocolpopexy in terms of result with reduced defecation disorders , backache and ostitis besides offering practical advantages during surgery in obese patients. Long term results are awaited.

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5-V - TRANSVAGINAL UTEROSACRAL SUSPENSION FOR NATIVE-TISSUE REPAIR OF POST-HYSTERECTOMY ENTEROCELE

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INTRODUCTION AND AIM OF THE STUDY

Enterocele is defined as a vaginal wall prolapse in which the peritoneum is in direct contact with the vaginal epithelium, with no intervening fascia. This is the result of the separation of the pubocervical from the rectovaginal fascia at the vaginal apex [1]. It may be concomitant to uterovaginal prolapse or – more frequently – associated with vaginal cuff descensus. Its surgical treatment represents a challenge for pelvic surgeons. Surgical principles include removal of the hernial sac and support of the vaginal cuff [2]. Moreover, it is mandatory to correct fascial defect by re-approximating pubocervical and rectovaginal fascias and reattaching them to the suspensory cardinal-uterosacral complex, in order to close hernial port [1]. Shull suspension allows re-approximation of the apexes of the pubocervical and rectovaginal fascias for all vaginal width, resulting in a complete closure of enterocele hernial port.
The aim of the video-tutorial is to provide anatomic views and surgical steps necessary to achieve a successful transvaginal repair of enterocele through uterosacral ligaments suspension.

MATERIALS AND METHODS

The featured video shows the transvaginal native-tissue repair of a post-hysterectomy enterocele with Shull technique. The following surgical steps were performed.

5. Allis clamps were positioned on the apexes of pubocervical and rectovaginal fascias to delimitate and allow good exposition of the enterocele.
6. A T-inverted longitudinal posterior colpotomy was performed in order to gain access to the rectovaginal space. Caudocranial dissection was carried out until enterocele sac was identified, isolated and opened to enter peritoneal cavity.
7. The bowel was packed out of the operative field with long gauze in order to allow identification of utero-sacral ligaments and three sutures per side were placed according to Shull's technique at the level /above ischial spine plane.
8. Trimming of the redundant mucosa and removal of enterocele sac were performed.
9. Ventral ends of USLs sutures were then passed through the peritoneum and the apex of the pubocervical fascia and anterior vaginal mucosa, while dorsal ends were passed through the peritoneum and the apex of the rectovaginal fascia and vaginal mucosa. Distal USLs sutures were passed laterally, the proximal ones medially, and the intermediate ones between the previous two.
10. All sutures were tightened in order to close peritoneum, to reapproximate the apexes of anterior and posterior fascias, to close vaginal apex in a transverse fashion and to suspend vaginal cuff.

RESULTS

The featured video shows a transvaginal enterocele repair with uterosacral ligaments suspension successfully achieved without complications. The final exam revealed excellent pelvic supports and vaginal length preservation. Diagnostic cystoscopy assessed bilateral ureteral patency.

INTERPRETATION OF RESULTS

Different surgical procedures are available to repair enterocele with or without mesh augmentation, either by vaginal or abdominal route. Transvaginal uterosacral ligaments suspension can provide a safe and mesh-free technique for enterocele repair. Shull original work reported excellent enterocele treatment, and vaginal cuff/ cul-de-sac resulted as the sites with the most durable support [3]. Severe complications were rare, and ureteral injury was only 1% [3]. In order to reduce ureteral complication, sutures should be positioned at the level or just above ischial spines plane, from ventral to dorsal. Moreover, intraoperative cystoscopy is mandatory to detect and manage ureteral complications.

CONCLUSIONS

The featured video shows a transvaginal enterocele repair with uterosacral ligaments suspension successfully achieved without complications. Shull procedure provides a safe and effective technique for enterocele repair without the use of prosthetic materials. Uterosacral ligaments identification, proper sutures placement and reapproximation of pubocervical and rectovaginal fascias with the closure of hernial port are the key points to achieve surgical success.

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6-V - ROBOT ASSISTED URETHROLYSIS AND FISTULA REPAIR POST INCONTINENCE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

Robotic surgery has a paramount role in the management of complex urogynaecological cases as outlined by this video.

Our aim is to highlight the benefits of robotic surgery in a case complicated by multiple previous incontinence surgeries. Benefits of robotic surgery for the surgeon include improved dexterity, enhanced magnification, and 3-dimensional visualization providing depth perception similar to that of open surgery. Furthermore, the patient returned home earlier, mobilised quickly and had an overall reduction in her pain symptoms.

MATERIALS AND METHODS

We present the case of a 35 year old who was referred from another institution. Three years previously she underwent insertion of a Tension-free vaginal tape (TVT ^{TM}) for stress incontinence which was complicated by mesh exposure into the vagina, and the vaginal portion of the tape was subsequently removed. Following removal, she developed de novo OAB (overactive bladder) symptoms and recurrence of stress incontinence. A second TVT was inserted, this was removed one month later due to severe pain and exposure into the urethra. Three months later, she underwent insertion of a rectus fascia sling, but due to pain, continuous vaginal bleeding, abdominal wound breakdown and urinary retention this sling was also removed after six weeks. Her OAB symptoms and stress incontinence worsened and she required intermittent self-catherisation (ISC) to empty her bladder. The patient reported feeling worse than ever and found ISC very difficult to perform. This is on a background surgical history of two previous caesarean sections, a total abdominal hysterectomy and an abdominoplasty.

At initial presentation she complained of severe pelvic pain, OAB, voiding difficulty, recurrent urinary tract infections, and debilitating stress incontinence. A cystoscopy and examination under anaesthesia was performed, revealing a hyper-elevated urethra that was rigid and drain-pipe like with no mobility. There was a small urethro-vaginal fistula at the distal end of the urethra. However there was no evidence of mesh erosion into the urethra or the bladder.

Following discussion, a combined vaginal and robotic approach was proposed to excise the retro-pubic portions of the TVTs, urethrolysis, and repair the fistula.

During surgery the retro-pubic portions of both tapes were identified, and removed using a robotic approach. Subsequently the urethra was released bilaterally, increasing its mobility. A robotic approach permitted for ease of dissection and good haemostasis. The subsequent vaginal approach consisted of identifying the extent of the fistula. The fistulous tract was dissected and the defect closed in layers, a martius flap was placed under the midurethra to increase the tissue bulk and reduce the risk of recurrence.

RESULTS

A catheter was left is situ for 14 days, and post op recovery was uneventful. The catheter was removed and a micturating cytogram showed no extravasation of the dye and an intact urethra. The patient reported marked improvement in her OAB symptoms, and resolution of her pain.

CONCLUSIONS

With the increasing number of complex urogynaecology cases in the clinical setting, the robot-assisted approach allows for meticulous dissection, and excellent access to retropubic space. And at the same time, reducing hospital stay, and quicker recovery.[1,2]

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7-V - GLUTEAL-SACROSPINOUS-VAGINAL FISTULA AFTER VAGINAL FIXATION WITH SACROSPINOUS LIGAMENT

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INTRODUCTION AND AIM OF THE STUDY

Gluteal-sacrospinous-vaginal fistula after vaginal fixation with sacrospinous ligament.

A case of delayed fistulae emanating from permanent polypropilene suture used in sacrospinous fixation for apical for vault prolapse is presented.

A 63-year-old woman with a history of an abdominal hysterectomy for myomatous uterus in 2003, an anterior colporrhaphy with a transobturator vaginal tape and a unilateral Richter (by placing polypropylene suture into the sacrospinous ligament using Miya Hook) for a cystocele, vault prolapse and stress incontinence, an anterior and posterior Vypro II mesh (a large-pore-sized multifilamentous polypropylene) in 2004 and a contralateral Richter for recurrent cystocele and vault prolapse and a rectocele in 2005, an anterior Prolift (monofilament polypropylene mesh) mesh for recurrent cystocele in 2007, presented with a nodule 5x4 cm in the left buttock compatible with an abscess in 2016.

At the same time, the patient presented with purulent drainage in her vagina. Oral Antibiotic treatment was given to the patient and the patient improved. After several similar episodes a pelvic MRI was performed. The MRI showed an extrasphincteric fistula arising from the inferior rectum at 1 o´clock with an ascendent path crossing the left major Incisura ischiatica and ending in a cul de sac at the sacrum ischiatic major level.

An endoanal ultrasound was perfomed and no internal or external fistulae appeared.

A fistulectomy was perfomed with collaboration of urogynecologists, colorectal surgeon and traumatologist.

Reproduction of the vaginal dissection for sacrospinous fixation failed to allow for visualization of the offending sutures, meshes, fistula or purulent drainage.

After that, a curvilinear insicion on the left sacroiliac joint with the patient in left lateral decubitus was perfomed. It was perfomed a dissection and identification of a subcutaneous pocket as a reaction to odd body. Subsequently, a dissection through the gluteal fascia and excision the subcutaneous pocket was performed. Presence of fistula emanating from permanent polypropilene through major incisura ischiatic was identified. After the placement of drainage, a communication with vaginal ceiling was identified.

The final step was closing by planes and closure of vagina.

A rectal examination was perfomed at the end of the surgery to confirm rectal integrity.

8-V - *LEVATOR ANI MUSCLE INJURY. INTRAPARTUM SURGICAL REPAIR AND FOLLOW UP*

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Complejo Hospitalario Navarra, Obstetrician Gynecologist, Pamplona-Navarra, Spain (1)

INTRODUCTION AND AIM OF THE STUDY

Levator ani muscle (LAM) injuries occur in 13-36% of women who deliver vaginally. Heamatoma in LAM is diagnosed by 3D ultrasound in 35% of women after a first vaginal birth. A spontaneous resolution is documented in the next 6-36 months. Diagnosis in the delivery room is told to be usually imposible, as LAM avulsion is commonly occult for some investigators, for others it can be diagnosed clinically by visualization and digital examination when levator avulsion is associated with a vaginal tear. There is a lack of information about intrapartum surgical repair of LAM injuries and their follow up

Evaluate the results of intrapartum surgical repair of LAM injuries

MATERIALS AND METHODS

Prospective follow up of 8 patients whom were diagnosed of intrapartum LAM injury. The presence of adipose tissue from pararectal space in a vaginal tear was the clue to recognise LAM injury. Surgical repair was done at the delivery ward. Pelvic floor rehabilitation was not done until a follow up 3D transperineal ultrasound scan was performed 6-8 weeks after delivery. Ultrasonography parameters evaluated: Presence/Absence LAM injury and location, hiatus area, antero-posterior and transverse hiatus diameters during Valsalva, hiatus area, antero-posterior and transverse hiatus diameters during maximum contraction.

RESULTS

6 from 8 patients were asymptomatic without limitations. 1 patient had mild urinary stress incontinence and mild pelvic pain, and 1 patient mild pelvic pain. Ultrasound scar was identified in all women. 5 from 8 had LAM injury in the other side. Hiatus area was reduced in all patients during Vasalva.

INTERPRETATION OF RESULTS

Repair of complete disruption of the muscle-tendon unit needs contact of both ends. In LAM injury we suggest it can be achieved by surgical repair.

CONCLUSIONS

Intrapartum surgical repair could be a treatment for total LAM injury. We need more studies in patients and controls

9-V - MANAGEMENT OF RECURRENT OR PERSISTENT STRESS URINARY INCONTINENCE IN WOMEN WITH A FAILED PREVIOUS MIDURETHRAL SLING

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INTRODUCTION AND AIM OF THE STUDY

The management of persistent or recurrent stress incontinence in female patients after a failed synthetic mid urethral sling. is a difficult subject and there is no consensus (1). After a synthetic sling failure procedure surgeons and patients could possibly choose an autologous pubovaginal sling instead of repeating a midurethral sling procedure. The technique has been found to provide a cure rate of up to 69.5% in women with stress urinary incontinence(SUI) and a failed synthetic mid urethral sling procedure (1). The technique has been already described (2) but this study provides information about a modification of the described technique with preparation suprapubically of space of Retzius obviating the need for cystoscopy.

MATERIALS AND METHODS

The patient is 69 years old, gravida 3. She had anterior and posterior colporraphy 2 years ago. She was complaining of loss of urine with coughing, snizzing etc. On clinical examination she had a cystocele grade I (POP-Q Classification system). Urodynamic study showed: urodynamic SUI, urine flow rate >20mls/sec and postvoid residual 30 mls. The Q-Tip test revealed urethral hypermobility (>30^{o}).

Description of the procedure.

1st step. This involves the harvesting of the external oblique muscle aponeurosis fascial graft. This is performed by making a Pfannenstiel incision 3 cm above the symphysis pubis with the dissection carried transversely to the external oblique aponeurosis. A 2cm by 12-15cm oblique fascial graft is marked out and the edges of the graft are dissected and set free form the underlying tissue. Running sutures of prolene 3-0 are stiched on the ends of the graft on both sides with the sutures left long. Subsequently the space of Retzius is prepared by bland dissection.

2nd step. 2 cm form the external urethral meatus a vertical longitudinal incision is performed in the anterior vaginal wall to the level of bladder neck were the autologous sling will be placed. An indwelling catheter has been inserted at the beginning of the operation to keep empty the bladder.

3rd step. A metallic introducer is inserted in to the foley catheter in order to move the bladder neck on the right and left side of the patient. Then a specifically made needle with a hole at its tip is inserted to the space of Retzious through the vaginal incision. The sutures attached to the ends of fascial graft are passed through the hole of the needle and are retracted towards the vagina, sequentially. The above steps are repeated for the contralateral side. The ends of the graft are sutured together below the urethra at the level of bladder neck with non-absorbable suture trying to have a distance of about 1 cm between the graft and the urethra. Cystoscopy is not needed. After adequate and satisfactory inspection of the operative field the vaginal and abdominal incisions are closed. The patient is left with a folley catheter in place until the next morning.

RESULTS

The patient at 10 months postoperatively is continent without difficulties of urination.

INTERPRETATION OF RESULTS

Pubovaginal sling procedure could be an efficacious alternative of synthetic midurethral sling for the management of patients with a failed previous midurethral sling operation. The preparation of space of Retzious obviates the need for cystoscopy.

CONCLUSIONS

Pubovaginal sling procedure with autologous graft can be used safely and without need for cystoscopy in women with a failed previous midurethral sling operation.

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10-V - "STANDARDIZED" APICAL FIXATION – LAPAROSCOPIC BILATERAL UTEROSACRAL LIGAMENT REPLACEMENT: DEFINED MATERIAL OF DEFINED SHAPE AT DEFINED FIXATION SITES

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11-V - A NOVEL TECHNIQUE FOR PREVENTION OF VAULT PROLAPSE AT VAGINAL HYSTERECTOMY

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Introduction

Vaginal cuff suspension at the time of primary prolapse repair constitutes a well known surgical option for prevention of vault prolapse. Delancey's levels of support include the uterosacral ligaments, endopelvic fascia and the levator ani. The interaction between the uterosacral ligaments and the pubocervical fascia is vital for preservation of appropriate vaginal orientation and physiological visceral function. This novel surgical technique is based on these principles.

Objective

This study was designed to assess intraoperative, anatomical and functional results of a novel technique for prevention of vault prolapse performed at vaginal hysterectomy.

Methods

64 women with pelvic organ prolapse involving the anterior and apical compartments that were planned for vaginal hysterectomy, vaginal repair and vault suspension were consecutively recruited, between January 2016 and January 2017. A prospective analysis involved use of a simplified POP - Q scoring system for anatomical assessment pre-operatively, six weeks and six months postoperatively. Quality of life was assessed using King's Health Questionnaire (KHQ) and Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire–12 (PISQ-12) forms. These were completed pre-operatively, six weeks and six months postoperatively.

Results

All 64 women had vaginal hysterectomy, anterior vaginal repair and vault suspension. The mean blood loss at surgery was 65mls and the mean operating time was 42 minutes (range 18 – 62 minutes).

On assessment of sexual health with the PISQ-12 forms, patient satisfaction rates had improved significantly at six weeks post surgery when compared to pre-surgery ($p < 0.05$) with no further change at six months post surgery.

Using King's Health Questionnaire, improvement of patient satisfaction was highly statistically significant at six weeks post surgery when compared with pre-surgery ($p < 0.001$) with no further significant change at six months post surgery.

In terms of anatomical outcome of anterior and apical compartments, a statistically significant improvement was noted at six weeks post surgery when compared with pre-surgery ($p < 0.05$).

On assessment at six months post surgery when compared with six weeks post surgery there was no statistically significant evidence of recurrence of anterior compartment prolapse or vault prolapse ($p < 0.05$).

Conclusion

This novel form of vault suspension has been shown to be safe and effective in terms of functional and anatomical outcome.

12-V - LAPAROSCOPIC SACROCOLPOPEXY FOR ADVANCED PELVIC ORGAN PROLAPS (DESCENSUS UTERI III-IV, CYSTOCELE III-IV, RECTOCEL III-IV) USING DYNAMESH

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AIM:
Description and evaluation of the Technique in 32 Patients treated laparoscopically to repair advanced (III-IV) genital prolapsed.
MATERIAL AND METHODS:
A non-randomised prospective analysis of 32 women, who underwent laparoscopic genital prolapse repair at st. loukas hospital in Thessaloniki, Greece and at Mother and Child medical centre in Nikosia, Cyprus. The patients with Descensus uteri underwent total laparoscopic hysterectomy with BSO and then laparoscopic sacrocolpopexy using two different kind of mesh. PRR for either zyctocele or rectocele and PRS for both.
Patients characteristics, preoperatory exams, intraoperative, postoperative and follow up clinic data were collected and analyzed.
RESULTS:
The mean operative time of the laparoscopic sacrocolpopexy using PRR for zyctocele (23 min), for rectocele (20 min) and using PRS for both (34 min).
All the patients were reviewed at 1 month, 3 months, 9 months and then every 6 months after the surgery for a period of 3 years. The follow-up was between 3 months and 30months (2015-2018).
There were no major intraoperative or postoperative complications and we had no mesh exposure or erosion. The mean hospitalization stay was 2.1 days.
CONCLUSIONS:
The laparoscopic sacrocolpopexy using DynaMesh is an effective and safe technique to repair the pelvic organ prolapses. The long term anatomical functional results are very satisfactory with no major complications.