Disseminated peritoneal leiomyomatosis: A case report and review of current events in the media and the literature

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Disseminated peritoneal leiomyomatosis (DPL) is a rare, mostly benign clinical condition where multiple smooth-muscle nodules or growths of various sizes of uterine origin implant on the abdominal, pelvic and peritoneal surface. The condition can occur spontaneously, or iatrogenically after surgical seeding. We present the case of a 46-year-old woman who was incidentally diagnosed with DPL during a laparoscopic hysterectomy 9 years earlier for menorrhagia and uterine fibroids. During this procedure the uterine specimen had been removed with a laparoscopic morcellator. With the increase in laparoscopic hysterectomies and myomectomies, this case highlights the need for surgical diligence in removal of all morcellated fragments of the specimen. The patient should be made aware of the potential risks of this technique of tissue extraction.

Case report
A 46-year-old woman (gravida 2, para 2) presented to a urogynaecology department complaining of stress urinary incontinence. After history and physical examination confirmed the diagnosis, treatment options were discussed. The patient decided to proceed with a laparoscopic sling procedure. Her previous surgical history indicated that she had undergone a laparoscopic supracervical hysterectomy 9 years earlier for menorrhagia secondary to a fibroid uterus. The uterine specimen was removed with a laparoscopic morcellator using a 10 mm port in the right lower quadrant. Final pathology results at the time confirmed fragmented benign leiomyomas with the uterine specimen.

Pelvic examination under general anaesthesia at the time of laparoscopy revealed a normal-sized cervix with an adjacent mass. Laparoscopy revealed a 1 cm fibroid-like structure noted upon placement of the right paraumbilical port (Fig. 1). A thorough examination of the rest of the pelvis and abdomen revealed a 3 cm ovoid structure over the left lateral pelvic sidewall close to the left round ligament (Fig. 2). Both fallopian tubes had fibroid-like growths within them (approximately 1 cm in diameter), and there was a larger 5 cm fibroid-like growth arising from the right adnexa (Fig. 3).

These lesions were excised with the aid of a CO2 laser, bipolar forcesps and laparoscopic scissors. There was no difficulty with the resection. The specimens were removed from the abdominal cavity in a laparoscopic bag after extending the umbilical incision from 10 to 20 mm. The specimens were then sent for pathological evaluation. Both ovaries were left in situ. After the fibroid-like masses had been excised, the laparoscopic sling procedure was commenced and completed. Final pathology results of resected specimens again identified fragmented benign leiomyoma, confirming the diagnosis of DPL.

Discussion
Morcellation is an effective technique for removing myomas and uteri with laparoscopy, but carries a rare but significant risk of intraperitoneal seeding of specimen content, leading to DPL. This is of particular concern in rare cases where a tumour has been
misclassified as benign preoperatively, but is an atypical leiomyoma variant or malignancy. The rate of misclassification varies between 0.09% and 1%. [5]

The recent controversy surrounding power morcellation of fibroids and uteri was sparked after an American physician developed disseminated uterine sarcoma following laparoscopic hysterectomy for what was thought to be a benign fibroid uterus. The authors encountered their patient around the time the initial story broke. Since then, the US Food and Drug Administration have publicly discouraged the use of power morcellation. The American Association of Gynecologic Laparoscopists (AAGL) [7] and the American College of Obstetricians and Gynecologists (ACOG) [8] have reviewed this issue. They have concluded that all existing methods of tissue extraction carry risks and that all modalities of tissue extraction should remain available.

More recently, one of the largest health insurance companies in the USA has stopped covering this procedure, since 1 September 2014. Also, Johnson & Johnson, who have a large market share of power morcellator sales, ceased distribution in April 2014 and asked users worldwide to return the product. [9]

**Conclusion**

This case highlights the importance of surgical diligence in removing all morcellated specimens at the time of laparoscopic supracervical hysterectomy and myomectomy.

Although the incidence of spontaneous DPL is rare, iatrogenic DPL secondary to morcellation will probably become more common than the current literature suggests. [3]

Prospective studies are needed to confirm this theory. Patients should be informed of the rare but potential risk when this technique of tissue extraction is used.

While the final word on the topic of power morcellation has not been spoken, physician experience and informed patient consent are of critical importance. Surgeons should also familiarise themselves with other techniques of tissue extraction, especially in cases where the diagnosis of benign leiomyomata is less certain.

**Consent.** Our patient provided written consent for publication of this case report.


**Fig. 1.** Right paraumbilical port and 1 cm adjacent mass.

**Fig. 2.** Mass (3 cm) arising from left pelvic sidewall close to remnant of left round ligament.

**Fig. 3.** Panoramic view of pelvis.