Impact of Race and Age on Duration Between Surgery and Chemotherapy in Epithelial Ovarian Cancer

J. Jaffe¹, E. Stevens¹, R. Rana¹, J. Blumberg², T. Pradhan¹, G. Salame¹, O. Abulafia¹, Y.C. Lee¹
¹SUNY Downstate Medical Center – Brooklyn, NY and ²Stony Brook University Medical Center

Background

Epithelial ovarian cancer is one of the most lethal gynecologic malignancies, and individualized therapy presents a challenge to clinicians. Debulking surgery followed by platinum- and taxane-based chemotherapy is the current standard of care.¹ However, numerous studies have shown that not all patients receive this standard. Increased age²,³ and non-white race⁴,⁵ have been consistently associated with nonstandard therapy. These differences persist despite reports that both populations benefit from optimal debulking and chemotherapy.²,³,⁴,⁵,⁶

Recent studies have suggested that the time to start chemotherapy after surgery may impact survival outcomes, with a delay in treatment negatively impacting prognosis.⁷,⁸,⁹ No studies have investigated demographic factors influencing a delay in initiating chemotherapy.

Objective

To determine if age or race impacts duration between surgery and initiation of chemotherapy in patients with epithelial ovarian cancer.

Methods

A retrospective chart review was performed from January 1999 - December 2010 from the tumor registry records at SUNY Downstate. Patients were included if the day of surgery and day of chemotherapy initiation was identified. Additional information regarding ER visits, readmission, surgical procedures and co-morbidities were also collected. Statistical analysis was performed using chi-square with Fisher exact and t-tests of unequal variances where appropriate.

Results

67 patients were identified with epithelial ovarian cancer. 54 (79.4%) required chemotherapy based on stage of disease. Of these, 7 patients had endometrioid, 8 mucinous and 39 papillary serous ovarian carcinoma by histology. 6 patients were excluded based on missing data, leaving 48 eligible for analysis. The overall duration between surgery and chemotherapy was 33 days (SD 9.0, range 11-122). The average patient age was 55.8 years.

With regards to age, 30 patients (62.5%) were age 60 or younger, 18 (37.5%) were older than 60. There was a significant difference in Charlson co-morbidity index with older patients more likely to have an index of 1 or greater. Older patients had significantly longer hospital stays after surgery. Older patients visited the ER and required readmission more frequently in the interval between surgery and chemotherapy when compared to younger patients. Even with these readmissions, with regards to age, there was no significant difference in interval between surgery and chemotherapy, or in rate of optimal debulking or additional debulking procedures.

Impact of Age on Interval Between Surgery and Chemotherapy

<table>
<thead>
<tr>
<th>Age</th>
<th>Days to Chemotherapy: All Patients</th>
<th>Days to Chemotherapy: Excluding re-op</th>
<th>ER Visits/Readmissions</th>
<th>Charlson Index (1 or greater)</th>
<th>Suboptimal Debulking</th>
<th>Additional Debulking</th>
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</thead>
<tbody>
<tr>
<td>&lt;60</td>
<td>34.0 +/- 15.6</td>
<td>34.0 +/- 15.6</td>
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<td>2</td>
<td>3</td>
<td>11</td>
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<tr>
<td>&gt;60</td>
<td>37.3 +/- 17.8</td>
<td>43.0 +/- 27.8</td>
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<tr>
<td></td>
<td>p = 0.53</td>
<td>p = 0.47</td>
<td>p = 0.02</td>
<td>p = 0.01</td>
<td>p = 0.51</td>
<td>p = 0.33</td>
</tr>
</tbody>
</table>

Conclusion

Age was not a factor impacting the duration between surgery and chemotherapy in this patient population. Race alone may be a factor impacting the duration between surgery and chemotherapy and deserves further investigation.

References