Peritoneal Sarcomatosis: A Nationwide Analysis of Treatment Factors and Outcomes

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Brief Summary

Peritoneal sarcomatosis is rare, understudied, and has poor overall survival. R0 resection confers a survival benefit along with adjuvant therapy in some histologic subtypes.

Introduction

Peritoneal sarcomatosis is uncommon, and its optimal management remains poorly defined. The current study examines the impact of resection with or without adjuvant treatment on overall survival (OS) for patients with peritoneal sarcomatosis within a large national data set.

Methods

The 2004-2015 National Cancer Database was queried for patients with peritoneal sarcomatosis. Patient factors, tumor factors, and treatment data were abstracted for analysis. The impact of resection and adjuvant treatments on OS were analyzed within a multivariable regression model and using time-to-event analysis.

Results

1,825 patients with peritoneal sarcomatosis were identified [median age 64 years, female (67.1%), Charlson comorbidity index <1 (77.2%)]. Forty percent (n=681) were poorly or undifferentiated. The most common histologic diagnoses were gastrointestinal stromal tumor (n=405), mixed mullerian tumor (n=341) and carcinosarcoma (n=162). Treatment consisted of resection (n=1077, 59%), radiation (n=141, 7.7%) and/or chemotherapy (n=952, 52.9%). Chemotherapy was neoadjuvant (13.2%), adjuvant (85.9%) or intraoperative (1%). Resection margins were reported in 51% of patients, with the majority receiving R0 resections (n=564, 60.5%). Median OS for all patients was 33.6 months (95% CI 30.5-36.6). By multivariable analysis, female sex, higher CDC-I, higher tumor grade, and positive nodal status were associated with worse OS, while R0 resection and radiation were associated with improved OS (all $p<0.05$). Subgroup analysis by histology revealed that the addition of chemotherapy to R0 resection was associated with improved OS for patients with carcinosarcoma ($p=0.031$), but not GIST ($p=0.295$) or mixed Mullerian tumor ($P=0.060$).

Conclusions

Peritoneal sarcomatosis, while uncommon, is associated with poor OS. Achieving R0 resection confers a clear survival advantage The benefit of adjuvant chemotherapy, if any, appears dependent on histologic subtype. Further prospective investigation is needed to optimize treatment regimens for patients with peritoneal sarcomatosis.