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Scientific Plenary VI - Healthcare Outcomes: Charting the Course
Monday, March, 11, 2013, 11:30 a.m.-12:30 p.m.
Concourse Hall (Los Angeles Convention Center)

Moderators, Abstracts: 45–48: Heidi Gray, MD,
University of Washington Medical Center, Seattle, WA.
Chirag Shah, MD, Pacific Gynecology Specialists, Seattle, WA

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NCCN treatment guidelines for ovarian cancer: A population-based validation study of structural and process quality measures

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Objective: To identify structural healthcare characteristics predictive of adherence to National Comprehensive Cancer Network (NCCN) guideline care for ovarian cancer and to validate guideline adherence as a quality process measure associated with improved survival.

Methods: Consecutive patients diagnosed with epithelial ovarian cancer between 1/1/99 and 12/31/06 undergoing a minimum surgical procedure of oophorectomy were extracted from the California Cancer Registry. Adherence to NCCN guideline care was defined by stage-appropriate surgical procedures and recommended chemotherapy. Multivariate logistic regression models were used to identify patient, disease-related, and treatment characteristics independently predictive of NCCN guideline adherence and overall survival.

Results: A total of 13,321 patients were identified. Overall, 37.2% received NCCN guideline-adherent care. High-volume hospitals (≥ 20 cases/year) accounted for 18.8% of cases, and 16.4% of surgeries were performed by high-volume surgeons (≥ 10 cases/year). The structural healthcare characteristic most predictive of NCCN guideline adherence was annual ovarian cancer case volume. High-volume hospitals were significantly more likely to deliver guideline-adherent care (50.8%) compared to low-volume hospitals (34.1%, $P < 0.001$). High-volume surgeons were significantly more likely to deliver guideline-adherent care (47.6%) compared to low-volume surgeons (34.5%, $P < 0.001$). After controlling for other factors, both low-volume hospitals (odds ratio [OR] = 1.83, 95% CI = 1.66–2.01) and low-volume surgeons (OR = 1.19, 95% CI = 1.07–1.32) were independently associated with deviation from NCCN guidelines. On multivariate survival analysis controlling for patient, disease-related, and healthcare system factors, nonadherence to NCCN guideline care was independently associated with inferior overall survival (hazard ratio [HR] = 1.34, 95% CI = 1.26–1.42). Both low-volume hospitals (HR = 1.08, 95% CI = 1.01–1.16) and low-volume surgeons (HR = 1.18, 95% CI = 1.09–1.28) were independently associated with worse overall survival after adjusting for NCCN guideline adherence.

Conclusions: Adherence to NCCN guidelines for treatment of ovarian cancer is correlated with overall survival and may be a useful process measure of quality cancer care. High-volume providers are significantly more likely to provide NCCN guideline-adherent care and are associated with improved survival outcomes. Ovarian cancer case volume may be a useful structural measure of quality cancer care. Increased efforts to concentrate ovarian cancer care are warranted.