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Authors

Bristow, RE
Chang, J
Ziogas, A
[et al.](#)

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March 22 – March 25, 2014
Tampa Convention Center, Tampa, FL

Scientific Plenary I: Innovative and Practice Changing Concepts in Gynecologic Oncology Saturday, March 22, 2014

8:25 a.m. – 9:30 a.m., Ballroom B-C

Moderator: Kathleen Moore, MD, University of Oklahoma, Oklahoma City, OK

1 - Scientific Plenary

Spatial analysis of geographic location and adherence to treatment guidelines for advanced-stage ovarian cancer: Impact of race and socioeconomic status

R.E. Bristow, J. Chang, A. Ziogas, H. Anton-Culver, V.M. Vieira.
University of California at Irvine, Irvine, CA, USA.

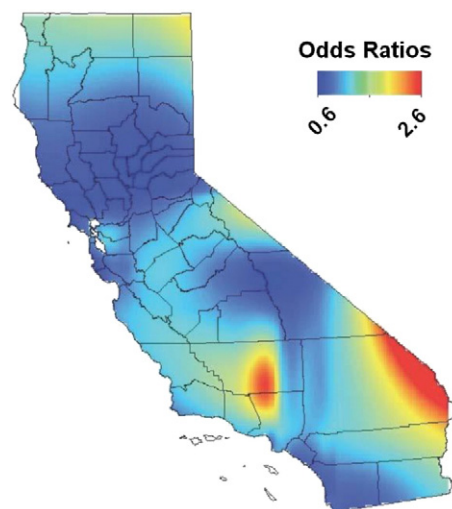
Objectives: To determine the impact of geographic location of residence and proximity to a high-volume hospital (HVH) on advanced-stage ovarian cancer care adherence to National Comprehensive Cancer Network (NCCN) guidelines in relation to race and socioeconomic status (SES).

Methods: Patients diagnosed with stage IIIC/IV epithelial ovarian cancer between January 1, 1999 and December 31, 2006 were identified from the California Cancer Registry. HVHs were defined as ≥ 20 cases/year. Generalized additive models (GAMs) were generated to assess the effect of spatial distributions, race, and SES on adherence to NCCN guidelines, with smoothing of geographic location and adjustment for confounding variables. Addresses were geocoded to the census block centroid.

Results: A total of 11,770 patients were identified. The median age at diagnosis was 63.8 years, and 5343 patients (45.4%) were treated according to NCCN guidelines (Figure). After controlling for disease-related characteristics, black race (OR = 1.49, 95% CI = 1.21–1.83) and low SES (OR = 1.46, 95% CI = 1.24–1.72) were associated with an increased likelihood of treatment that was not adherent to NCCN guidelines, while HVH treatment was protective (OR = 0.59, 95% CI = 0.53–0.66). Geographic location ≥ 80 km from an HVH was independently associated with an increased risk of nonadherent care (OR = 1.88, 95% CI = 1.61–2.19). There was an inverse linear association between SES and the proportion of patients living ≥ 80 km from a HVH, ranging from 6.3% (high SES) to 33.0% (low SES) ($P < 0.0001$). Overall, 33.6% of patients treated at HVHs traveled ≥ 32 km for care compared to

just 17.0% for patients treated at low-volume hospitals ($P < 0.0001$). Travel distance ≥ 32 km to receive care was associated with an independent and statistically significant protective effect against treatment that deviated from NCCN guidelines (OR = 0.80, 95% CI = 0.69–0.92). White patients were significantly more likely to travel ≥ 32 km to receive care (21.8%) compared to blacks (14.4%), Hispanics (15.9%), and Asian/Pacific Islanders (15.5%) ($P < 0.0001$).

Conclusions: Geographic proximity to a HVH and travel distance to receive treatment are independent predictors of NCCN guideline-adherent care for advanced-stage ovarian cancer. Geographic barriers to standard ovarian cancer treatment disproportionately affect racial minorities and women of low SES.



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