

Shifting trends in diagnosis of high-grade serous tubo-ovarian carcinoma: a populationbased assessment Matthew Lee, MD – University of Southern California

Topic: Ovarian

Objectives

Mounting evidence suggests that high-grade serous ovarian carcinoma arises in the distal fallopian tube. The current study examined trends, characteristics, and outcomes of high-grade serous tubo-ovarian carcinoma.

Methods

This retrospective cohort study queried the National Cancer Institute's Surveillance, Epidemiology, and End Results Program. The study population was 24,146 patients with high-grade serous ovarian carcinoma (HGS-OC: n=21,093) or high-grade serous fallopian tubal carcinoma (HGS-FT: n=3,053) from 2004-2019. All patients had a histopathologic diagnosis confirmation. Patients with secondary malignancy were excluded. Exposure was the primary cancer site. The co-primary outcomes were (i) a temporal trend of primary cancer site, assessed with a linear segmented regression with log-transformation, (ii) clinical characteristics, assessed with a multivariable binary logistic regression model, and (iii) overall survival, assessed with a Cox proportional hazard regression model.

Results

The frequency of HGS-FT increased from 3.4% to 25.8% during the 16-year study period (7.6-fold increase, P-trend< 0.001; Figure). In a multivariable analysis, a diagnosis of HGS-FT was more likely in later years (adjusted-odds ratio [aOR], 1.17, 95% confidence interval [CI] 1.16-1.18). Patients in the HGS-FT group were older and more likely to have early-stage disease compared to those in the HGS-OC (aOR for stage I-II vs III-IV 1.74, 95%CI 1.58-1.90). HGS-FT was associated with a 23% decreased all-cause mortality risk compared to HGS-OC (adjusted-hazard ratio [aHR] 0.77, 95%CI 0.73-0.82). Improved survival in HGS-FT compared to HGS-OC remained robust in stage I-II (aHR 0.68, 95%CI 0.57-0.82) and stage III-IV (aHR 0.79, 95%CI 0.74-0.84) disease. At the cohort-level, in parallel to the increase in HGS-FT, the number of stage I-II disease increased from 16.0% to 20.8% (P-trend< 0.001).

Conclusions

This population-based assessment suggests that diagnosis of high-grade serous tubo-ovarian carcinoma is gradually shifting from high-grade serous ovarian to fallopian tubal carcinoma over time. Clinicopathological characteristics and oncologic outcome of high-grade serous fallopian tubal carcinoma are different from high-grade serous ovarian carcinoma.

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