Oral Abstract 9: Mucinous ovarian cancer disproportionately drives racial survival inequity: a population-based SEER analysis

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Topic
Ovarian

Objectives
Racial disparities in ovarian cancer outcomes are well described, yet the degree to which survival inequity differs across histotypes remains poorly characterized. This study examined the association between ancestry and cause-specific survival across six histotypes using a large population-based registry.

Methods
Women aged ≥30 with epithelial ovarian cancer between 2000 and 2022 were identified from the Surveillance, Epidemiology, and End Results (SEER) registry (N=97,472). Histotypes included high-grade serous (HGS, n=69,125), low-grade serous (LGS, n=2,252), endometrioid (ENOC, n=10,868), clear cell (CCOC, n=5,998), mucinous (MOC, n=5,708), and mixed epithelial (n=3,521). Cause-specific survival was modeled using multivariable Cox proportional hazards regression within each histotype, adjusting for multiple clinicopathological factors. White ancestry served as the reference group. Interaction between ancestry and histotype was assessed using a stratified Cox model.

Results
Black ancestry was independently associated with worse cause-specific survival in five of six histotypes: HGS (HR 1.25, 95% CI 1.21–1.30), ENOC (HR 1.45, 95% CI 1.23–1.71), CCOC (HR 1.35, 95% CI 1.10–1.65), mixed epithelial (HR 1.41, 95% CI 1.12–1.77), and MOC (HR 1.77, 95% CI 1.51–2.06). No significant association was observed in LGS (HR 1.12, 95% CI 0.77–1.63). The ancestry-by-histotype interaction was significant (p=0.001), confirming that the magnitude of disparity differs across histotypes. This was most pronounced in MOC, where Black patients comprised 8.0% of cases (458/5,708) yet carried a 77% higher risk of cancer-specific death after adjustment. Other ancestry subtypes were generally not associated with worse survival; Asian ancestry was associated with improved survival in HGS and CCOC.

Conclusions
Racial survival disparities in epithelial ovarian cancer vary by histotype, with mucinous carcinoma showing a disproportionate excess mortality among Black patients that persists after adjustment for known clinicopathological factors. The histotype-specificity of this finding suggests that socioeconomic and access-related factors alone are unlikely to account for the observed disparity. Biological and genetic differences in mucinous tumor biology between ancestral groups warrant investigation.

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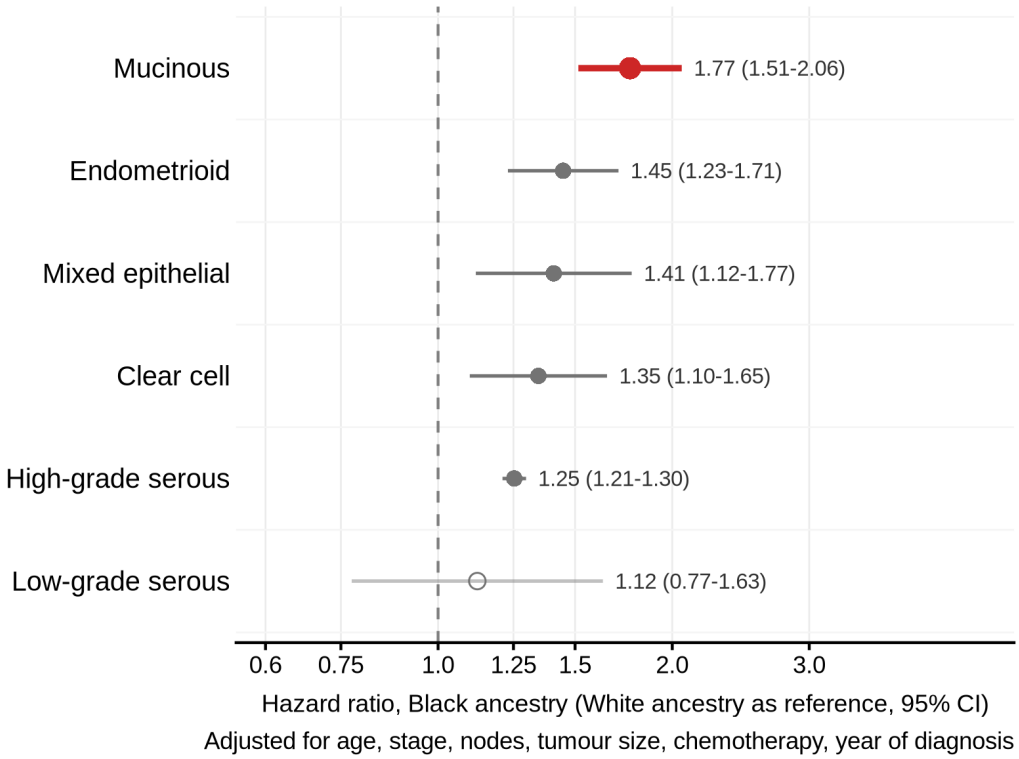
Mucinous
1.77 (1.51-2.06)
Endometrioid
1.45 (1.23-1.71)
Mixed epithelial
1.41 (1.12-1.77)
Clear cell
1.35 (1.10-1.65)
High-grade serous
1.25 (1.21-1.30)
Low-grade serous
1.12 (0.77-1.63)
0.6
0.75
1.0
1.25
1.5
2.0
3.0
Hazard ratio, Black ancestry (White ancestry as reference, 95% CI)
Adjusted for age, stage, nodes, tumour size, chemotherapy, year of diagnosis