TriNetX healthcare organization (HCO) networks in the US (TNX-US) and EMEA (TNX-EMEA) to analyze the impact of endometriosis as a risk factor for the development of EC.

Methodology Using TriNetX Platform, we defined a cohort of 284,287 patients with endometriosis and at least 6 months of follow up at the HCO, 254,726 from TNX-US and 29,561 TNX-EMEA. Propensity score matching between these cohorts and the female control cohorts in each regional network was used to remove the possible confounding effects of age, body mass index (BMI), previous diagnosis of pelvic inflammatory disease, breast cancer, other cancer of female genital organs or genetic susceptibility to cancer. Hazard ratio (HR) was used to compare the incidence of EC between the matched cohorts. Kaplan Meier analysis was used to compare the overall survival (OS) of EC patients with previous endometriosis vs those without endometriosis patients after propensity score matching. The time window of observation in both analyses was 10 years.

Results Patients with endometriosis diagnosis had a higher risk of developing EC in both TNX-US (2,151/237,034 vs 620/238,837, HR 3.49, 95% CI 3.19–3.82) and TNX-EMEA (319/28,241 vs 41/28,282, HR 7.58, 95% CI 5.48–10.50). The OS of EC patients with endometriosis was demonstrated to be significantly better than those without endometriosis: the 10-year OS probability was 78.37% vs 62.41% ($p<0.01$) and 73.11% vs 49.61% ($p<0.01$), in TNX-US and TNX-EMEA, respectively.

Conclusion Our RWD supports the association between endometriosis and an increased risk of developing EC. Endometriosis-associated tumors appear to have a better prognosis.

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TriNetX contributed in the collection and analyses of the data, but had no role in interpretation of data, in the writing of the manuscript, or in the decision to present the results.

06. Ovarian cancer

#70 INFLUENCE OF PREDICTIVE FEATURES ON THERAPY RESPONSE AND SURVIVAL IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS BY GERMLINE BRCA MUTATION STATUS: AN UPDATE FROM THE AUSTRALIAN OVARIAN CANCER STUDY

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Introduction/Background Pathogenic germline BRCA1 and BRCA2 (BRCA) variants are frequent in high-grade serous ovarian cancer (HGSOC). Age, tumor stage, and residual disease are known predictors of survival. However, it is not clear whether these associations differ by BRCA variant status. We examined the association between clinicopathological features and survival by BRCA status, in a large cohort of HGSOC patients.

Methodology We evaluated clinicopathological and germline DNA sequencing data on 1,405 patients with HGSOC from 17 Australian treatment centres, enrolled into the Australian Ovarian Cancer Study between 2002–2023. Multivariate Cox proportional hazards models and logistic regression analysis were used to assess the association between prognostic factors and outcomes by BRCA status.

Results The study population consisted of 1,112 (79.1%) non-carriers and 293 (20.9%) BRCA mutation carriers. Age, FIGO stage, BRCA status, primary site and residual disease showed a significant association with survival after risk factor adjustment. Non-carriers with residual disease showed a poorer overall survival compared to non-carriers with no residual disease ($p<0.001$, HR: 2.10, 95%CI: 1.75–2.50), whereas there was no significant difference in survival for patients with BRCA germline alterations with or without residual disease ($p=0.188$ and 0.221, HR: 1.17 and 0.8, 95%CI: 0.91–1.50 and 0.57–1.10, respectively). Patients with primary peritoneal carcinoma had a poorer survival than those with primary ovarian HGSOC ($p=0.002$, HR:1.33, 95%CI: 1.11–1.60). Patients with protein-truncating BRCA mutations had a better survival than those with splice-site, missense or structural variants ($p<0.001$). The results of the logistic regression analysis model aligned with the multivariate cox regression model.

Conclusion Our results suggest that the adverse effect of residual disease is stronger for non-carriers compared to patients with a germline BRCA mutation. Thus, while optimal debulking improves outcomes for all patients with HGSOC, it may be particularly important to achieve no residual disease for non-carriers.

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#454 PROPOSITION OF A TAILORED PERIOPERATIVE-CARE ALGORITHM FOR PATIENTS WITH ADVANCED-STAGE OVARIAN CANCER, BASED ON THE SURGICAL COMPLEXITY SCORE (ALETTI SCORE)

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Introduction/Background Advanced ovarian cancer (AOC) treatment requires extensive surgical procedures. The reported frequency of complications following cytoreductive surgery (CRS) ranges from 10 to 20%. Depending on the number of