Poster 28: HER2 expression does not influence survival in patients with stage I uterine serous carcinoma, a multi-institutional study.

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Topic
Endometrial

Objectives
A previous retrospective study reported human epidermal growth factor 2 (HER2) as an independent poor prognostic factor in women with stage I uterine serous carcinoma (USC), which led to the inclusion of stage I patients with USC in trials examining HER2-targeted agents in the frontline setting. We sought to examine the association between HER2 expression and survival in women with stage I USC in an independent cohort.

Methods
We identified and abstracted clinical data from all patients with FIGO 2009 stage I USC or mixed carcinoma with >10% USC at 2 institutions between 2010 and 2025. We performed immunohistochemistry (IHC) and defined HER2 positivity as 3+, or 2+ with positive fluorescence in situ hybridization (FISH). We calculated progression-free (PFS), overall (OS), and disease-specific survival (DSS) via a Kaplan-Meier estimator and performed multivariable analyses using Cox proportional hazards models.

Results
We identified 369 patients, with 88 (24%) found to have HER2+ tumors. Between the HER2+ and HER2- subgroups, we observed no differences in race, ECOG performance status, staging approach, molecular status, choice of adjuvant treatment, or median follow-up time. Patients with HER2+ tumors were older (71 vs 68, p=0.01), had more stage IB disease (32 vs 21%, p =0.04), myometrial invasion (68 vs 54%, p=0.03) and lymphovascular space invasion (LVSI, 40 vs 23%, p=0.002). After a median follow-up of 38.0 months, we observed no differences in recurrence (31 vs 32%, p=0.8) or death (18 vs 23%, p=0.4) between HER2+ and HER2- cohorts. Similarly, PFS, OS, and DSS were not different (Figure 1). On multivariable analyses, ECOG score ≥1 was associated with poorer PFS (aHR 1.81, 95% CI 1.23-2.66) and OS (aHR 1.74, 95% CI 1.08-2.78). Stage IB disease was associated with worse DSS (aHR 2.24, 95% CI 1.21-4-09). Receipt of any adjuvant therapy was associated with improved PFS (aHR 0.40, 95% CI 0.27-0.60), OS (aHR 0.60, 95% CI 0.37-0.99), and DSS (aHR 0.48, 95% CI 0.28-0.82). HER2 positivity did not show any independent association with PFS, OS, or DSS.

Conclusions
We did not identify HER2 positivity as an independent predictor of survival in women with stage I USC. These findings underscore the need for further prospective studies to elucidate the prognostic relationship between HER2 and outcomes in this specific population.

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