Prognostic role of the molecular classification in endometrial cancer patients with cervical stromal invasion

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Topic: Endometrial

Objectives

Cervical stromal invasion (CSI) in endometrial cancer (EC) is rare, but it is a sign of a disease that is either biologically aggressive, or a tumor that grew for a significant time in patients who had delayed medical care. The optimal treatment for patients with CSI remains unclear. We aimed to test the prognostic role of molecular classification in EC patients with CSI.

Methods

A retrospective histopathologic review of EC patients with CSI was performed. Stage, histology, grade, myometrial invasion (MI), lymphovascular space invasion (LVSI), lymph node (LN) status, cytology status, uterine serosal involvement (USI), and adnexal involvement were included. Immunohistochemistry (IHC) was performed for p53 and mismatch repair (MMR) proteins. DNA sequencing was performed for POLE. The ProMisE approach was used to classify tumors. The Kaplan-Meier method was used to assess recurrence-free survival (RFS) and associations evaluated using Cox proportional hazards models.

Results

We reviewed 167 EC patients with CSI of which 126 underwent molecular classification. Thirty-four patients failed molecular testing (n=32 POLE testing; n=2 IHC stain) and one POLE mutation was identified resulting in a final sample of 91 patients. Molecular classification included NSMP (n=39/91), MMRd (n=22/91), and p53abn (n=30/91). Most patients with NSMP had stage II (n=15/39) and stage IV (n=10/39), endometrioid histology (n=33/39), no LVSI (n=22/39), MI ≥50% (n=28/39), and negative LNs (n=26/39). Tumors classified as p53abn had non-endometrioid histology (n=26/30), LVSI (n=19/30), MI ≥50% (n=24/30), and positive LNs (n=16/30). The 3-yr RFS rate was 52.7 (95% CI 37.7-73.7) for NSMP, 46.7 (95% CI 29.0-75.0) for MMRd, and 27.5 (95% CI 13.3-57.2) for p53abn tumors. Significant predictors of recurrence on univariate analysis were: stage IV, grade 3, non-endometrioid histology, LVSI, MI ≥50%, USI, adnexal involvement, positive cytology, and positive LNs. There was no statistically significant association between molecular class and recurrence. The risk of recurrence was increased with p53abn expression (HR 1.95, 95% CI 1.15-3.30, p=0.01) compared to non-p53abn tumors.

Conclusions

An integrated molecular (p53abn) and clinicopathologic risk profile help predict poor prognosis in patients with EC and CSI.

Abstract Table or Graph

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