The Prognostic Significance of the Depth of Cervical Stromal Invasion in Women with FIGO Stage II Uterine Endometrioid Carcinoma

Sondos Al Khatib MD[a], Aseem Bhatnagar MD[a], Noor Elshaikh[a], Ahmed I Ghanem MD, PhD[a], Charlotte Burmeister MS[b], Ghassan Allo, MD[c], Bassam Alkamachi, MD[c,] Alex Paridon MD[d] and Mohamed A Elshaikh, MD[a*]

[a]Department of Radiation Oncology, Henry Ford Cancer Institute, Detroit, MI 48202, USA

[b]Public Health Science, Henry Ford Hospital, Detroit, MI 48202, USA

[c]Department of Pathology, Henry Ford Hospital, Detroit, MI 48202, USA

[d]Division of Gynecologic Oncology, Department of Women's Health Services. Henry Ford Hospital, Detroit, Michigan 482020, USA

Key Words: Endometrial Carcinoma, Stage II, cervical stromal invasion, Adjuvant, Radiation treatment, Hysterectomy, Prognosis.

Abstract

Objective: The prognostic impact of the depth of cervical stromal invasion was not clearly investigated in women with FIGO stage II uterine endometrioid adenocarcinoma (EC).

Methods: Our prospectively maintained database of women with FIGO stage II EC, solely of endometrioid type was quired. Pathologic slides were retrieved and reviewed by gynecologic pathologists to determine cervical stromal thickness and depth of cervical stromal invasion (%CSI) as a percentage of stromal thickness. Kaplan-Meier, log-rank, univariate, and multivariate analyses were used to compare recurrence-free, disease-free, and overall survival at 5 years between women who had <50% versus ≥50% cervical stromal invasion. Univariate and multivariate analysis assessed other prognostic variables associated with survival endpoints.

Results: The study cohort included 117 patients who had hysterectomy between 1/1990 and 8/2021. 79 (68%) with <50% and 38 (32%) with ≥50% cervical stromal invasion. After a median follow-up of 131 months, 5-year disease-specific survival was significantly worse for women with ≥50% cervical stromal invasion (78% vs 91%; p=0.04). However, %CSI was not an independent predictor for any 5-year survival endpoints. Independent predictors of worse 5-year recurrence-free and disease-specific survival included FIGO grade 3 tumors (p=0.02) and the presence of lymphovascular space invasion (p=0.03). Grade 3 tumors was the only independent predictor of worse 5-year overall survival (p=0.02).

Conclusions: Deep cervical stromal invasion was not an independent prognostic factor for survival endpoints in women with stage II uterine endometroid adenocarcinoma after hysterectomy. Our findings may be validated with multi-institutional pooled analysis.