Novel Immunohistochemical Markers in the Differential Diagnosis of Endocervical and Endometrial Adenocarcinoma: The Added Benefit of CAIX and PAX8

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Objectives: Histologic distinction between endocervical and endometrial adenocarcinoma in biopsy specimens remains a well-established diagnostic challenge. A battery of immunostains is often employed, which in practice may be discordant and ultimately noncontributory. The current study aimed to review the efficacy of a panel of customary stains performed when faced with this differential diagnosis, with the addition of several novel markers.

Methods: Endocervical and endometrial biopsies with a diagnosis of adenocarcinoma and a subsequent hysterectomy specimen diagnosed in our department over 9 years were identified. Immunohistochemical stains for carbonic anhydrase 9 (CAIX), protein-tyrosine phosphatase (PTEN), PAX-8, PAX-2, ARID-1a, hepatocyte nuclear factor-1-beta (HNF1b), carcinoembryonic antigen (CEA), vimentin, p16, estrogen receptor (ER), and progesterone receptor (PR) were evaluated on tissue microarrays constructed from representative biopsy tissue. Cases without residual carcinoma in the hysterectomy were excluded.

Results: A total of 90 cases were identified, including 9 endocervical and 81 endometrial adenocarcinomas. The average age at diagnosis was 58 years. A statistically significant difference between cases of endocervical and endometrial origin was exhibited when comparing immunoreactivity for PAX-8 (P = .01), CAIX (P = .03), vimentin (P < .001), p16 (P < .001), PR (P < .001), ER (P < .001), and CEA (P < .01). The addition of PAX8 and CAIX to a standard immunohistochemical panel increased diagnostic specificity (from 89% to 100%) and positive predictive value (from 98% to 100%).

Conclusion: A routine panel of immunohistochemical markers, which often includes studies for p16, ER/PR, vimentin, and CEA, remains a useful aid in the histologic distinction between endocervical and endometrial adenocarcinoma. Our analysis suggests that the addition of PAX-8 and CAIX may be beneficial when faced with the morphologic challenge of deciphering primary site of origin in small biopsy specimens.

Clinicopathologic Correlation of Mucinous Differentiation in Primary Ovarian Endometrioid Adenocarcinoma

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Background: Ovarian endometrioid carcinoma (OEC) and ovarian mucinous carcinoma (OMC) have different prognoses, with OMC being significantly worse. OEC can have squamous, mucinous, and tubal differentiation. Recent studies of mucinous differentiation (MUCdiff) in uterine EC disagree on the association of MUCdiff and clinical outcomes. The purpose of this study is to correlate the presence of MUCdiff in OEC with clinicopathologic features and overall survival.

Methods: Forty-one cases of primary OEC (1996–2017) were reviewed. MUCdiff was defined as the presence of cells with intracellular mucus within the primary tumor. Two pathologists reviewed the cases for histologic subtype, tumor grade, size, laterality, LVI, lymph node/extranodal metastasis, and presence of mucinous differentiation. The mucinous component was quantified as <5%, 5% to 25%, and 26% to 50% of the tumor. A retrospective chart review evaluated a variety of clinical and demographic attributes. Data were analyzed using the Fisher exact test, standard Student t test analysis, and Kaplan-Meier method.

Results: MUCdiff was found in 24% (n = 10) of the cases. MUCdiff was associated with low grade, FIGO 1 (P = .0385). No patient with high-grade OEC demonstrated MUCdiff (P = .003). MUCdiff was associated...