

Utility of CK7, CK20 and CDX-2 as a Potential Panel in Differentiating Primary Ovarian Surface Epithelial Tumors from Metastatic Adenocarcinoma to the Ovary

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Abstract : Background: In Saudi Arabia, ovarian cancer ranked seventh among female population and is the most common female genital tract malignancy after endometrial cancer. A slight increase in the incidence of ovarian cancer was observed from 2001-2008. Makkah, Riyadh, and the eastern region of Saudi Arabia had the highest incidence rate ratio for the number of ovarian cancer cases (1). Differentiating metastatic adenocarcinomas from primary ovarian carcinomas, especially those of endometrioid and mucinous type is clinically significant and a challenge for clinicians and pathologists, yet the distinction has important therapeutic and prognostic implications. Aim: To clarify the most important histopathological criteria to differentiate between primary ovarian surface epithelial tumors especially mucinous and endometrioid subtypes, and metastatic adenocarcinoma and to evaluate the value of a panel of antibodies consisting of CK7, CK20, and CDX-2 in the distinction between primary ovarian surface epithelial tumors and metastatic adenocarcinoma. Material and methods: This study was carried out on 26 cases of primary ovarian surface epithelial neoplasms and 14 cases of metastatic ovarian adenocarcinoma. All cases were studied immunohistochemically using CK7, CK20, and CDX-2. Results: All cases of primary ovarian adenocarcinoma were positive for CK7. 25% and 58% of mucinous borderline mucinous tumor and mucinous carcinoma respectively were positive for CK20. Only 42% of mucinous carcinoma were positive for CDX-2. All cases of endometrioid carcinomas were negative for both CK20 and CDX-2. All cases of metastatic adenocarcinoma from the colon were negative for CK7 and positive for CK20 and CDX-2. Conclusions: CK7 is an important positive marker for primary ovarian tumors, while CK20 and CDX-2 are useful markers for colorectal carcinoma metastatic to the ovary. Caution should be taken as primary ovarian mucinous tumors may stain positive for CK20, CDX-2, or both, however, they usually exhibit a focal pattern of reactivity.

Keywords : adenoma, endometrioid, malignancy, ovarian

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