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WT1 Exprassion in Malignant Surface Epithelial Ovarian Tumors

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Abstract : Background: Malignant surface epithelial ovarian tumors (SEOT) account for approximately 90% of primary ovarian cancer. Wilms tumor gene (WT1) product was defined as a tumor suppressor gene, but today it is considered capable of performing oncogenic functions. There seems to be differences in WT1 expression patterns among SEOT subtypes. We evaluate the immunohistochemical expression of WT1 protein among different histologic subtypes of SEOT. Materials and Methods: Immunohistochemistry for WT1 was done on 35 serous cystadenocarcinomas, 9 borderline serous tumors, 3 mucinous cystadenocarcinomas, 10 borderline mucinous tumors, 7 endometrioid ovarian carcinomas, 3 clear cell carcinomas, 1 malignant Brenner tumor, 2 metastatic adenocarcinomas, and 6 endometrial adenocarcinomas. A tumor was considered negative if < 1% of tumor cells were stained.Positive reactions were graded as follows:1+,1%-24%; 2+,25%-49%; 3+,50%-74%; 4+,75%-100%. Results: Of the 35 cases of ovarian serous cystadenocarcinoma, 30(85.7%) were diffusely positive (3+,4+),4 showed reactivity of < 50% of the tumor cells (1+,2+), and one were negative. All 9 borderline serous tumors showed immunoreactivity with WT1. All the mucinous tumors(n:13), endometrioid carcinomas (n: 7), clear cell carcinomas (n: 3), metastatic adenocarcinomas (n: 2) and primary endometrial carcinomas (n:6) were negative. The single malignant Brenner tumor showed a positive reaction for WT1(4+) Conclusion: WT1 is a good marker to distinguish primary ovarian serous carcinomas from other surface epithelial tumors (especially endometrioid subtype) and metastatic carcinomas (especially endometrial serous carcinoma), other than malignant mesothelioma. We cannot rely to the degree of expression inorder to separate high grade borderline serous tumors from low grade ones.

Keywords : WT1, ovary, epithelial tumors, malignant
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