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Thesis Title	The role of Wilm's Tumor1 immunomarker in surface epithelial ovarian tumors
Year	2014

Abstract

varian cancer is the seventh most common cause of cancer death in worldwide, since most patients are diagnosed in advanced disease stages. In Iraq , ovarian tumors rank the 6th commonest cancer and constituted 3.81% according to Iraqi Cancer Board Registry in 2009.These tumors comprise several distinct histological types. The surface epithelial tumors account for 60% of all ovarian neoplasm.

Wilms' tumor 1 (WT1) is a transcription factor first found in Wilms' tumor of the kidney, where it acts as a tumor suppressor gene. The gene is located in chromosome 11p13, and its expression was found in many of solid tumors   (including ovarian tumor) and hematologic malignancies, it is also found recently to be involved in angiogenesis.

The aim of the study:

1.To evaluate the expression of WT1 , CA125 and CD34 proteins as   immunohistochemical markers in surface epithelial ovarian tumor.

2.To correlate the levels of WT1 expression with that of CA125 and CD34   immunomarkers .

3.To evaluate the possibility of using WT1 as replacement of both CA125 and   CD34 immunomarkers in surface epithelial ovarian tumors.

Material and Methods :

This is a retrospective study of (60) cases with total abdominal hysterectomy and bilateral salpingo - oopherectomy collected from department of Histopathology Teaching Laboratories that belongs to the Medical City Teaching Hospital , as well as Al alwya hospital and Al Habibia hospital in Baghdad during the period from December 2008 to December 2013 . Thirty cases diagnosed as surface epithelial ovarian tumors and thirty cases of histologically normal ovarian tissue were included as a control group . Formalin-fixed , paraffin - embedded ovarian tissue blocks from (60) cases

were used . Four sections of 4 micron stained with Haematoxylin and Eosin, and the other three stained with WT1, CA125, and CD34 immunohistochemical marker on positively charged slides.

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Results: Concerning the clinicopathological assessment of ovarian tumor, the peak age incidence for malignant ovarian tumors was found in the fifth decades of life, There was no significant correlation between patients age and ovarian tumor types(P-value =0.898) . The present study demonstrates that serous adenocarcinoma occur bilaterally (52%) , while mucinous adenocarcinoma and endometrioid tumors occur unilaterally (100 %) for both , and transitional cell carcinoma occur as unilateral and bilateral in equal percent (50%) for each . The most common histological grade of surface epithelial ovarian carcinoma among Iraqi patients in this study was borderline (46.7%) followed by (20%) for both moderately and poorly differentiated then (13.3%) for well differentiated ovarian tumor. Immunohistochemical expression of WT1 had no significant correlation with the age of cases (P-value = 0.9) and with the grade of ovarian tumors (P-value= 0.23) . On the other hand , there was a significant correlation between expression of WT1 and histological types of surface epithelial ovarian tumor with a higher expression in serous tumors among other cancer types . (P-value < 0.001) . And there was a significant positive correlation between the expression of WT1 and CA125 scores (p-value < 0.001) . There was a significant correlation between WT1 - microvessel density (MVD) expression and CD34- microvessel density (MVD) expression in ovarian tumors (P-value = 0.05) . Regarding the distribution of immunomarkers expressions between malignant cases and control group , there is no significant correlation in CD34-microvessel density (MVD) ,WT1- microvessel density (MVD) expression between control group and malignant cases . (P- value = 0.5), (P- value = 0.8) respectively. On other hand there was statistically significant difference in CA125 and WT1 expression between control group and malignant cases (P- value < 0.001) for both .

Conclusion:

1.The present study demonstrates a high expression of WT1 in both tumor and endothelial cells in surface epithelial ovarian tumors, and it had dual usages in evaluation of both ovarian tumor cells and the vascular density. That was proved by demonstrating a significant correlation between WT1 and CA125 expression, and between WT1 microvessel density and CD34 microvessel density (MVD).

2.There was no statistically significant association between WT1expression and different tumor grades.

3.There was significance differences in WT1expression among

different histological subtypes of primary ovarian carcinomas, with serous carcinoma as the most frequent type.