Mais M Salim Mohammedhasan Almurtadha, J Clin Exp Pathol 2018, Volume 8
DOI: 10.4172/2161-0681-C1-046

Immunohistochemical expression of VEGF in relation to other pathological parameters of breast carcinoma

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Background: Several molecular markers have been detected that are important in clinical aspect of malignancies especially in breast cancer. More recently, the expression of vascular endothelial growth factor (VEGF), the most potent endothelial cell mitogen and also a regulator of vascular permeability, is emerging as a prognostic marker in patients with several types of cancer including breast cancer. This study assessed the expression of VEGF in a series of breast cancers in correlation with HER-2/neu and steroid receptors (ER and PR) in standard clinicopathological parameters in an attempt to clarify its potential clinical importance in Iraqi females of Middle Euphrates area.

Findings: The present investigation was performed over a period starting from September 2011 through September 2012. Formalin-fixed, paraffin-embedded blocks from 52 patients with breast cancer (44 ductal and eight lobular carcinoma) were included in this study. A group of 20 patients with fibroadenoma was included as a comparative group, and 20 samples of normal breast tissue sections were used as controls. Labeled streptavidin-biotin (LSAB+) complex method was employed for immunohistochemical detection of VEGF, HER-2/neu, ER and PR. The detection rate of VEGF, HER-2/neu, ER and PR was 59.62%, 36.96%, 34.62% and 36.54% respectively. There was a significant difference in immunoexpression between ductal and lobular carcinoma, but not significantly different among tumor sizes, tumor grades, axillary lymph node involvement and age of the patients. However, VEGF was positively correlated with tumor grade, tumor size, nodal involvement and HER-2/neu, but negatively correlated with ER and PR, which show the most unfavorable bio pathological profile.

Conclusion: VEGF overexpression play an important role in pathogenesis of breast carcinoma evolution, as its positivity associated with biologically aggressive tumors, so incorporation of this biomarker with other parameters into a prognostic index will more accurately predict clinical outcome and determine the effects of anti-cancer therapy.

Biography

Mais M Salim Mohammedhasan Almurtadha has completed her Master's degree in Histopathology from Al Kufa University and PhD degree in Histopathology from Iraqi Board for Medical Specialization and is a fellow of the Iraqi Board for Medical Specialization in Histopathology. Since 2014, she is a Lecturer in Faculty of Medicine, Kufa University. She has published two papers in reputed journals.

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