ORIGINAL ARTICLE

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Immunohistochemical Assessment of ER and PR Status in Tissue Tumors of Breast Cancer Patients and Their Relation with Proliferation and Tumor Grade

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Abstract

Introduction: One of the most important tumor markers in determining the prognosis and treatment of breast cancer is expression of estrogen and progesterone receptors. Also Ki67 biomarker (mitosis indicator) represents growth rate and tumor proliferation. Grade is a determining factor in prognosis and tumor behavior and lymph node involvement is an important predictive factor for invasive breast cancer. Therefore the purpose of this paper is immunohistochemical assessment of ER and PR in breast cancer patients and its relation with proliferation and tumor grade.

Methods: In this descriptive-analytical study, one hundred and eighty four breast cancer patients were chosen from Shahid sadoughi hospital in 2011-2013. Immunohistochemistry technique was used for assessment of expression of ER, PR and tumor proliferation (Ki67). Statistical analysis was performed using pearson, tau-kendall and linear regression test.

Results: In this study, average amount of ER, PR, Ki67 were respectively 69.16± 18.63, 58.32 ± 12.2 and 26.32±18.63٪ in breast cancer patients. There was inverse relation between ER and PR with grade ($P<0.05$), but there was no relation between ER and PR with cell proliferation and age ($P>0.05$).

Conclusion: The results of this study showed that the expression of estrogen and progesterone receptors and cell proliferation is different in tissue tumors of breast cancer patients. Also high expression of steroid receptors was associated with low grade of tumors in breast cancer patients.

Keywords: Breast Cancer, ER Receptor, PR receptor, Tumor Proliferation.