

Original Paper

Gene expression of cell proliferative marker Ki67 in breast cancer

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Abstract

Background and Objective: Breast cancer is one of the most important malignant tumors world-wide and the second common cancer in the females. Breast cancer is associated with a number of environmental factors and genetic damages. Ki67 is a proto-oncogene which is activated in cell proliferation process. Ki67 is important in prognosis and response to chemotherapy. The aim of this study was to investigate the Ki67 gene expression in patients with breast cancer by immunohistochemistry method.

Materials and Methods: This descriptive laboratory study was conducted on 80 breast cancer specimens from patients admitted to the hospitals in Sabzevar, Iran during 2005-09. Samples were fixed in formalin, the tissue processing was done and sections were stained by Hematoxylin and Eosin method. The malignancy was diagnosed by two pathologists blindly. Over expression of ki67 was determined with the immunohistochemistry method. Slides were scored into negative, weak, average and strong based on percentage of cells which were stained. The Data were analyzed by SPSS-11.5, Chi-Square and Fisher's exact tests.

Results: Ki67 proliferative marker was observed in 37 (46.3%) specimens with breast cancer. Sensitivity of staining was one positive (+) in 15 cases, two positive (++) in 14 cases and three positive (+++) in 8 cases. There was a significant relationship between Ki67 gene expression and tumor type and tumor staging ($P < 0.05$), but there was no significant relationship between Ki67 gene expression and tumor grade.

Conclusion: It is concluded that, ki67 is expressed mostly in invasive and developed breast cancer.

Keywords: Breast cancer, ki67 expression, Immunohistochemistry

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Received 31 July 2010

Revised 21 November 2010

Accepted 8 January 2011