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Expression of p53 and p16 in carcinoma breast tissue: depicts prognostic significance or coincidence

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Breast cancer remains the most common malignancy among the Indian female population. The p16 and p53 genes are frequently mutated in breast cancer. Therefore, we aimed to evaluate the prognostic significance of p16 and p53 overexpression in breast cancer and their correlation with various traditional prognostic parameters. Total of 100 confirmed cases of breast cancers were selected. Patients who underwent chemotherapy treatment were excluded from the study. Estrogen receptor (ER), progesterone receptor (PR), and Her2neu immunohistochemistry were performed. The p16 and p53 immunohistochemistry was performed on all cases and association with various clinicopathologic parameters was determined. The mean age of carcinoma breast was 53.3+11.6 with age ranging from 28 to 82 years. On histopathological examination, 93% of cases were of invasive ductal cell carcinoma (IDC) with majority of grade I (43%). Only 14% of cases showed positive p53 expression and 19% of cases showed positive p16 expression. P16 was seen in a very significant correlation with p53 expression in all breast carcinoma cases (<0.002). p53 expression showed a positively significant (<0.05) correlation with age and grade III. The p16 expression was seen significantly correlated with low mitotic activity index (MAI) only. The p53 over-expression was seen in worse prognostic factors such as high tumor grade, Her2neu and triple-negative expression suggested its potential role in pathogenesis of carcinoma breast. In addition, high expression of p16 seen in low mitotic count and Her2neu expression also emphasized the role of this biomarker and recommends further molecular-based research.

Biography

Manjit Kaur Rana is an Assistant professor in All India Institute of Medical Sciences, Bathinda in the Department of Pathology