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Evaluation of the relationship between human epidermal growth factor receptor-2/neu (c-erbB-2) amplification and pathologic grading in patients with breast cancer

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Abstract

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Objectives: The human epidermal growth factor receptor-2 (HER-2)/neu is a proto-oncogene that is amplified in 10-30% of breast cancers. It is known to be associated with a poor overall survival. We studied the relationship between its amplification and different histological gradings of breast cancer. **Methods:** We studied 196 patients diagnosed with breast cancer in 2005 at the Omid and Ghaem Training Hospital, Mashhad Medical University, Iran. The HER-2/neu oncoprotein was measured by immunohistochemistry and the histological gradings were carried out according to the Bloom-Richardson Grading system. **Results:** Sixty-seven (34.2%) cases were HER-2/neu positive and 129 (65.8%) cases were HER-2/neu negative. Overexpression of HER-2/neu was significantly higher in breast cancer patients <30 years (50% versus 33.3%, $p=0.034$). There was a non-significant statistical relationship between histological grading and overexpression of HER-2/neu oncogen ($p=0.087$). Twelve (17.5%) of HER-2/neu positive cases were metastatic and only 4 (3.1 %) of HER-2/neu negative cases had metastasis ($p=0.051$). **Conclusion:** HER-2/neu gene amplification or its overexpression is detected in approximately 34.2% of breast cancer cases. Patients with HER-2/neu positive breast cancer have higher stage and grade diseases. This may help to use a better treatment for patients.

Reaxys Database Information

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Indexed Keywords

EMTREE drug terms: epidermal growth factor receptor 2

EMTREE medical terms: adult; aged; article; breast cancer; cancer grading; cancer staging; controlled study; diagnostic accuracy; diagnostic value; female; gene amplification; gene overexpression; histopathology; human; human tissue; immunohistochemistry; Iran; lymph node metastasis; major clinical study; protein analysis; breast tumor; gene expression regulation; genetics; middle aged; pathology

MeSH: Adult; Aged; Aged, 80 and over; Breast Neoplasms; Female; Gene Amplification; Gene Expression Regulation, Neoplastic; Humans; Middle Aged; Receptor, erbB-2

Medline is the source for the MeSH terms of this document.

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