

Immunohistochemical analysis of ER, PR, HER-2, CK 5/6, p63 and EGFR antigen expression in medullary breast cancer

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ABSTRACT

Aims and background. Recent publications of breast cancer classification based on gene expression profile analyses indicate that medullary breast carcinomas (MBC) may be considered part of the basal-like carcinoma spectrum made up of ER-negative, PR-negative and HER-2-negative cells ("triple-negative phenotype"). On the other hand, there are also data showing that a proportion of MBC and atypical MBC (AMBC) is ER, PR and/or HER-2 positive. Therefore, we have decided to immunohistochemically analyze ER, PR, HER-2 and basal/myoepithelial markers CK 5/6, p63 and EGFR expression in our archival paraffin-embedded MBC and AMBC samples from 48 patients.

Methods. Immunohistochemical evaluation of samples which were derived from patients operated on at our two hospitals between 1999 and 2005.

Results. Typical MBC was found in 39 patients and AMBC in 9 patients. The patients ranged in age from 32 to 84 years (median 55). Modified radical mastectomy with axillary dissection was performed in 30/48 patients (63%) while breast segmentectomy with axillary dissection was performed in 18/48 patients (37%). Metastases in axillary lymph nodes were observed in 15/48 patients (31%). ER positivity was present in 3/48 patients (6%), PR positivity in 8/48 (17%), and a positive HER-2 reaction was present in 14/48 patients (29%). CK 5/6 was positive in 20/48, p63 in 24/48 and EGFR in 8/48 patients. Adjuvant therapy was applied in all but 2 patients. Alive were 45/48 (94%) of patients. With the exception of PR expression, 39 patients with typical MBC and 9 patients with AMBC were comparable in the analyzed parameters. Positive HER-2 antigen expression in the analyzed sample was not found to be associated to a statistically significant degree with the MBC or AMBC histological tumor type, tumor size, axillary lymph node metastases, ER and PR status nor with patient survival.

Conclusions. The data from our study seem to be generally comparable with the relatively scarce published data on clinicopathological parameters of MBC and AMBC.

Key words: medullary breast cancer, ER, PR, HER-2, CK 5/6, p63, EGFR.

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