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C-ERB-B2 ONCOPROTEIN OVER-EXPRESSION AS A PREDICTOR OF PROGNOSIS OF THE DUCTAL INVASIVE BREAST CARCINOMA

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The aim of this study was to assess prognostic significance of c-erbB-2 over-expression in breast carcinoma patients in association with other well known prognostic factors.

In our study 93 patients with ductal invasive breast carcinoma were enrolled. The relationship was assessed between c-erbB-2 oncoprotein over-expression by immunohistochemistry, and other prognostic factors such as age, grade of tumor, axillary node involvement, estrogen and progesterone receptor status, tumor size, Cathepsin D positivity in carcinoma cells as well as in stromal macrophages, and ploidy status of tumor cells. These indicators were analyzed as possible prognostic factors related to patients survival.

Univariate analysis showed that overall survival was correlated significantly with axillary node involvement and expression of estrogen and progesterone receptors (for all $p < 0.01$), and marginally for c-erbB-2 over-expression ($p = 0.059$). In a multivariate analysis only axillary node metastases and estrogen receptor status were found as independent and significant prognostic factors. The results showed that patients with c-erbB-2 over-expression and grade II tumors, tumor size greater than 2 cm, high content of aneuploid tumor cells and presence of Cathepsin D positive stromal macrophages had shorter long-term survival than c-erbB-2 negative patients.

These results confirm that c-erbB-2 over-expression is associated with number of established prognostic indicators, and that combination of c-erbB-2 expression and DNA aneuploidy, tumor size greater than 2 cm as well as presence of Cathepsin D positive stromal macrophages may be a predictor of poor prognosis for some number of patients. C-erbB-2 over-expression also divided grade II tumor patients in prognostically two different groups.

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PREDICTIVE VALUE OF ESTROGEN RECEPTORS EVALUATED BY IMMUNOCYTOCHEMICAL ANALYSIS IN BREAST CANCER PATIENTS

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BACKGROUND: The determination of estrogen receptor (ER) status is valuable in selecting the appropriate therapy and predicting prognosis for patients with invasive breast carcinoma. **OBJECTIVE:** The aim of our study was to assess the predictive value of ER status evaluated preoperatively by immunocytochemical analysis and compared with recurrence rate, clinical and histopathological features in 52 patients with breast carcinoma.

MATERIALS AND METHODS: Fifty-two aspirates obtained by Fine-needle-aspiration biopsy (FNAB) were prepared as cytosin samples for ER-immunocytochemical analysis (ER-ICA). Cytosin slides were stained using a standard procedure with horseradish peroxidase-antiperoxidase (PAP) method, utilising monoclonal antibody to ER (H222SP, ER-ICA kit, Abbott Laboratories, USA). The assessment of staining was scored in a semiquantitative fashion incorporating the intensity and the distribution of stained cells and the values were designated as IS-CYTOSCORE.

All the patients underwent radical mastectomy with axillary lymphadenectomy, during the period from September 1990 to March 1992, and were staged according to the postoperative TNM classification of UICC (1987) guidelines. During the follow-up period (range, 2-75 months, mean, 32) recurrences were observed in 25 (48%) patients. ER status was correlated to the recurrence rate, age of the patients, type of the breast carcinoma, tumor size, grade of histologic infiltration, desmoplastic reaction, elastosis, necrosis and calcifications. The comparison was made by cross classification and statistical significance determined by χ^2 and Fisher's exact test.

RESULTS: ER Status was positively detected in 28 (53.8%) patients. There is significant association between ER status and age of the patients ($p = 0.02$), the type of the breast carcinoma ($p = 0.018$), and the recurrence rate ($p = 0.012$). Eighteen out of 26 (70%) patients 50 years or older, were positively related to ER status. In 22 (42.3%) lobular carcinomas, ER status was positive in 16 (73%) patients, compared with 30 (57.7%) ductal carcinomas, with ER status positive for 12 (40%) patients, only. Recurrences were observed in 16 (64%) patients with ER-breast carcinomas and 9 (36%) patients with ER+ breast carcinomas. Less important histopathological features as elastosis and calcifications, demonstrated statistically significant positive relation with ER status ($p = 0.004$ and $p = 0.0005$, respectively). No significant association was found between the ER Status and other histopathological characteristics.

CONCLUSION: Our results suggest that recurrences, age of the patients and the lobular type of breast carcinoma are positively correlated with ER status. These data are consistent with the results of other similar studies. On the other hand, the stage of the disease as well as the grade of histologic differentiation and lymph nodes involvement, demonstrated no significant association with ER status as expected. A small number of cases studied and the heterogeneous stages included, could explain some of the differences between our data and the results from other studies. Semiquantitative ER-ICA, as fast and simple method, is especially useful in determination of ER status in recurrent, metastatic and small-sized breast carcinomas. The great advantage of ER-ICA is in a possibility of ER status preoperative determination, and repeating the procedure, if necessary. Despite the good performances, some inherent difficulties must be noted: subjectivity in scoring and detection by antigenicity of ER. Therefore, ER status quantitative assessment by using Cell-Analysing-System (CAS) and concomitant quantitative measurements of progesterone receptor status, should be of additional benefit.

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PROGNOSTIC VALUE OF PROMINENT DCIS COMPONENT IN THE BREAST-CONSERVING THERAPY OF STAGE I AND II INVASIVE DUCTAL BREAST CANCER

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The aim of this study was to determine the presence and histological grade of prominent ductal carcinoma in situ (DCIS) and the relationship between histological grade of DCIS of invasive ductal carcinoma of the breast and local recurrences and survival. We have analyzed 148 patients with Stage I and II invasive ductal breast carcinoma who underwent breast-conserving therapy in the period 1987-1994. All patients were initially treated by breast-conserving surgery followed by radiotherapy. Thirteen patients developed recurrences and were treated by hormonal and/or chemotherapy. The patients were divided into those with carcinoma showing prominent DCIS (73 patients), and the control group with tumors without DCIS component (75 patients).

Local recurrence was observed in 2 patients without, and in 11 patients with prominent DCIS. They occurred in 7 out of 28 patients with poorly differentiated DCIS, 4 of 34 patients with intermediately differentiated DCIS, and 0 of 11 patients with well differentiated DCIS component. Follow up period was between 12-96 months (median 62 months).

Our results suggest that the patients with poorly differentiated DCIS have significantly more common recurrences than patients with intermediately and/or well differentiated DCIS.

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DETECTION AND CHARACTERISTICS OF AN ENDOCRINE-CELLULAR COMPONENT IN BREAST CANCER IN PREMENOPAUSAL AND POSTMENOPAUSAL WOMEN

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Object Among 99 patients with breast cancer in 19 patients we found presence of endocrine cell differentiation

Methods Histochemical argrophilic Grimelius reaction and argentaffinic reaction of Masson-Fontana

Results In 15 from 52 postmenopausal women and 4 out of 47 premenopausal women breast cancer showed presence of the endocrine cell component. The population of tumor cells was represented by two clones epithelial cells without granules 5-6 μ m in diameter and epithelial cells with granules averaged 7-8 μ m in diameter. The amount of endocrine cells (epithelial cells with granules) averaged 5-60 % of the total tumor cell population.

Presence of endocrine differentiation was found in the following histological types of breast carcinoma: infiltrating duct carcinomas (18%), mucous carcinomas (13%) and duct carcinomas in situ (20%).

Regional metastasis was present in all cases of premenopausal patients (100%) and in 9 out of 14 cases of cancer in postmenopausal ones (64%). At the same time distal metastasis was seen in two postmenopausal patients.

Conclusion Breast tumors with an endocrine cell component are more often seen in postmenopausal women (28%) than in premenopausal ones (8%) and have a high degree of aggressiveness.