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Immunohistochemical Expression of C-Erb-B2, Steroid Receptors and Cathepsin-D in Breast Carcinomas: A Clinicopathologic Trial

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Abstract: Aim: We investigated the role of c-erb-B2, hormone receptors and cathepsin D in breast carcinoma progression and their correlation with each other. Methods: Forty-six breast carcinoma patients, operated on in the department of surgery and diagnosed in the pathology department, were classified according to their histopathological characteristics; the results of immunostaining with estrogen and progesterone receptors, c-erb-B2 and cathepsin-D were correlated with the stage and the disease-free survival of the patients. Results: Nuclear positivity was observed in 23 (50 %) cases for estrogen receptor and in 16 (34.8 %) cases for progesterone receptor. There was membranous staining with c-erb-B2 in 37 (80.4 %) cases and cytoplasmic staining with cathepsin-D in 44 (95.6 %) cases. Cathepsin-D positivity was significantly related to the axillary lymph node metastases ($p < 0.001$). A positive correlation was observed between c-erb-B2 and cathepsin-D positivity and also between estrogen and progesterone receptors ($r = 0.45$, $p < 0.001$). Conclusion: The results of this study revealed a high incidence of c-erb-B2 oncogene overexpression in breast carcinomas from Turkish mediterranean women. Cathepsin-D positivity of the tumor cells was correlated with the lymph node metastases. Only estrogen receptor positivity was correlated with the stage of the tumour ($p = 0.02071$).

Key Words: Breast carcinoma, cathepsin-D, c-erb-B2

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