Status of estrogene, progesterone receptors and HER-2/neu expression in invasive breast cancer

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Abstract

Background&Objective: The breast cancer is the most common malignancy in women. The normal and malignant breast tissue are under the regulatory effects of esteroid hormones and growth factors including HER-2/neu. The purpose of this study, is to determine the expression of estrogene receptor (ER) progesterone receptor(PR) and HER-2/neu among Iranian women with invasive breast cancer.

Materials&Methods: The study is descriptive and cross-sectional that was performed on 50 samples of patients with invasive breast cancer in Imam-Khomeini Hospital-Sari (2005-06). After preparing the samples four tissue sections from each sample was obtained then H&E and IHC staining were performed.

Results: In our study, the patients were between 28-88 yrs, (mean:52/6). ER and PR and HER-2/neu were positive in 80%, 72% and 57.1% of cases, respectively. Concurrent positive ER and PR was 70%, meanwhile 62.9% of these patient were also positive for HER-2/neu. 20% of the cases showed negativity for both ER and PR and of these 83.4% were also negative for HER-2/neu.

Conclusion: In our study ER expression by itself is equal to previous studies in textbooks but PR expression, HER-2/neu and concurrent expression of ER&PR are higher in our study. Interestingly HER-2/neu expression is near to what was previously proposed by Iranian Blood Transfusion Organization and Kerman University of Medical science. It seems that racial and geographic factors are contributed for these diffrences.

Key Words:
Invasive breast cancer- Receptor- Estrogene- Progesterone- HER-2/neu