

## Prognostic Value of Tumor Markers in Younger Patients with Breast Cancer

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**Abstract :** Background: Breast cancer occupies the first place among the cancer in women in the world. It is urgent today to study the role of molecular markers which are capable of predicting the dynamics and outcome of the disease. The aim of this study is to define the prognostic value of the content of estrogen receptor (ER), progesterone receptor (PgR), and amplification of HER-2 / neu oncoprotein by studying 3 and 5-year overall and relapse-free survival in 470 patients with primary operable and 280 patients with locally-advanced breast cancer. Materials and methods: Study results of 3 and 5-year overall and relapse-free survival, depending on the content of RE, PgR in primary operable patients showed that ER positive (+) and PgR (+) survival was 100 (96.2%) and 97.3 (94.6%), for ER negative (-) and PgR (-) - 69.2 (60.3%) and 65.4 (57.7%), for ER positive (+) and negative PgR (-) 87.4 (80.1%) and 81.5 (79.3%), for ER negative (-) and positive PgR (+) - 97.4 (93.4%) and 90.4 (88.5%), respectively. Survival results depended also on the level of HER-2 / neu expression. In patients with HER-2 / neu negative the survival rates were as follows: 98.6 (94.7%) and 96.2 (92.3%). In group of patients with the level of HER-2 / neu (2+) expression these figures were: 45.3 (44.3%) and 45.1 (40.2%), and in group of patients with the level of HER-2 / neu (3+) expression - 41.2 (33.1%) and 34.3 (29.4%). The combination of ER negative (-), PgR (-), HER-2 / neu (-) they were 27.2 (25.4%) and 19.5 (15.3%), respectively. In patients with locally-advanced breast cancer the results of 3 and 5-year OS and RFS for ER (+) and PgR (+) were 76.3 (69.3%) and 62.2 (61.4%), for ER (-) and RP (-) 29.1 (23.7%) and 18.3 (12.6%), for ER (+) and PgR (-) 61.2 (47.2%) and 39.4 (25.6%), for ER (-) and PgR (+) 54.3 (43.1%) and 41.3 (18.3%), respectively. The level of HER-2 / neu expression also affected the survival results. Therefore, in HER-2/ neu negative patients the survival rate was 74.1 (67.6%) and 65.1 (57.3%), with the level of expression (2+) 20.4 (14.2%) and 8.6 (6.4%), with the level of expression (3+) 6.2 (3.1%) and 1.2 (1.5%), respectively. The combination for ER, PgR, HER-2 / neu negative was 22.1 (14.3%) and 8.4 (1.2%). Conclusion: Thus, the presence of steroid hormone receptors in breast tumor tissues at primary operable and locally- advanced process as the lack of HER-2/neu oncoprotein correlates with the highest rates of 3- and 5-year overall and relapse-free survival. The absence of steroid hormone receptors as well as of HER-2/neu overexpression in malignant breast tissues significantly degrades the 3- and 5-year overall and relapse-free survival. Tumors with ER, PgR and HER-2/neu negative have the most unfavorable prognostics.

**Keywords :** breast cancer, estrogen receptor, oncoprotein, progesterone receptor

**Conference Title :** ICANCT 2017 : International Conference on Advances in Breast Cancer Treatments

**Conference Location :** Kyoto, Japan

**Conference Dates :** April 27-28, 2017