breast cancer, metastatic

CONVERSION OF THE HORMONAL RECEPTORS ON RECURRENT BREAST CANCER PATIENTS

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Aim: When clinicians consider the treatment strategies for the recurrent breast cancer patients, the choice of treatment is generally determined with the information of the pathological diagnosis of the primaries. However, the tumor phenotype is sometimes altered when it recurred. In this study, we compared the tumor characteristics among the primaries, metastatic lymph nodes and the recurrences, and assessed the correlation with the survival.

Methods: Seventy breast cancer patients whose diagnosis of the primaries and the metastases had been confirmed at Aichi Medical University Hospital were enrolled in this study. The comparative assessment of the lesions was performed on the following factors; the status of estrogen receptor (ER), progesterone receptor (PR), and Ki-67 index. Association with those factors were assessed and the survival was estimated.

Results: For ER, 19.8% of patients with the positive status in the primaries changed to the negative in the metastases (ER + /-) and the reverse conversion (from negative to positive; ER-/+) were confirmed in 27.2% patients. In the similar fashion, PR +/- was recognized in 39.5% and PR-/+ in 31.2%. As for the metastatic lymph nodes, only 1 case of ER-positive in the primary converted to the negative, but 18.8% of PR-positive and 35.7% of PR-negative were altered to the each opposite receptor status. Ki-67 index increased significantly when the negative conversion occurred in the cases of the positive primaries. The overall survival was worsened significantly on the patients with negative alteration from the positive primaries. The hazard ratio for the survival was 0.29 (95% CI = 0.12-0.73) in the cases of ER + /+ vs. ER + /-, and 0.12 (95% CI = 0.03-0.43) in the cases of PR + /+ vs. PR + /-.

Conclusions: The receptor conversion that occur concomitantly with the recurrence of the breast cancer, was observed in about 20 to 40% recurrent cases. On metastasizing, the breast cancer acquired more aggressive nature, especially when its receptor status was altered from positive to negative. The tumor characteristics such as receptor status can be changed so easily that the treatment strategy have to be reconsidered for making an appropriate judgement on the next therapeutic way.

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