CHEMORESISTANCE TO NEOADJUVANT CHEMOTHERAPY IN YOUNG PATIENTS WITH ER-POSITIVE BREAST CANCER

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Aim: The incidence of breast cancer in young women (<35 years of age) is about 9.5% in Korea and it is higher than in Western countries. Neoadjuvant chemotherapy could be considered in young patients to avoid mastectomy. In estrogen receptor (ER)-positive breast cancer, young age is associated with poor prognosis. The possible reason several reports have suggested is the resistance to tamoxifen in adjuvant treatment. However, it is reported that adjuvant chemotherapy is less effective in ER-positive tumors than ER-negative tumors. We tried to evaluate the benefit from neoadjuvant chemotherapy and the chemoresistance in young patients with ER-positive breast cancer excluding the effect of endocrine treatment.

Methods: We collected individual patient data from 1992 to 2013 from the Korean Breast Cancer Society (KBCS) and 1,049 ER-positive patients under 50, that had been treated with neoadjuvant chemotherapy were included for analysis. We compared pathologic complete response (pCR) rate of those aged under 35 versus those aged 35 to 49.

Results: One hundred forty seven patients (14.0%) aged under 35 and 901 patients (86.0%) aged 35 to 49. Although progesterone receptor status, histologic type and molecular subtypes were comparable in both groups, tumors with high Ki-67 expression were found in 49.4% of patients under the age of 35 years and in 32.7% of patients aged 35 to 49 (P = 0.007). Breast conservation rates were not significantly different between the two groups (44.2% versus 46.8%, P = 0.30), pR rates of both breast and axilla were 4.8% versus 3.5% for patients aged under 35 versus patients aged 35 to 49. Also pCR rates of only breast were 5.4% versus 4%. There were no significant differences between the two groups (P = 0.56, P = 0.87).

Conclusions: Chemotherapy response using pCR rates among young patients (<35 years of age) with ER-positive breast cancer was not better than that of older premenopausal patients with ER-positive breast cancer although the proportion of tumors with high Ki-67 proliferative index was larger in young patients.

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