New trends in primary systemic therapy for breast cancer

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Neoadjuvant chemotherapy (NAC) is the standard treatment for locally advanced breast cancer. NAC is also recognized as the initial treatment of choice for patients who are candidates for adjuvant chemotherapy. A pathologic complete response (pCR) is a predictor of outcome associated with improved disease-free and overall survival. The identification of accurate predictors of a pCR to NAC is important to spare patients unnecessary toxicity. Hormone receptors, histologic grade, HER2, and ki-67 labeling index were evaluated as predictors of a pCR. An early response to NAC might be correlated with a high probability of a pCR. Jinno et al. reviewed indications for and predictors of NAC. The histological effects differ among the subtypes of breast cancer when the same NAC regimen is administered. In clinical studies of patients with HER2-positive breast cancer, NAC with trastuzumab resulted in high pCR rates. The induction of personalized medicine and new molecular targeted therapies are expected to result in higher pCR rates in NAC. Dr Kinoshita summarized the current consensus on the adoption and benefits of NAC, especially for operable breast cancer patients.

Hormone receptor (HR)-positive, HER2-negative breast cancer is regarded as a subtype with a good prognosis and which is sensitive to hormone therapy. Endocrine therapy may be sufficient for some HR-positive, HER2-negative breast

cancer patients. Neoadjuvant endocrine therapy (NAE) is a new treatment option for such patients. Takei et al. reviewed NAE for premenopausal breast cancer patients using a luteinizing hormone-releasing hormone (LH-RH) analogue plus tamoxifen and for postmenopausal breast cancer patients using tamoxifen or aromatase inhibitors. The prognosis of HR-positive breast cancer patients receiving NAE has not been evaluated thoroughly. No comparative study of pre and postoperative endocrine therapy is available. Dr Iwata has introduced a new clinical study, N-SAS BC06, which is a randomized phase III trial conducted in Japan. Postmenopausal women with ER-positive, HER2-negative T1c-T2 N0 M0 breast cancer were classified into complete response (CR), partial response (PR), or stable disease (SD) groups and the progressive disease (PD) group, and patients in the CR, PR, or SD groups were randomized to a chemotherapy followed by endocrine therapy group or to an endocrine therapy group. The primary endpoint is disease-free survival.

Immunohistochemical (IHC) biomarkers such as ER, PgR, and HER2 are very important predictors of the sensitivity to endocrine therapy or chemotherapy. Recently, there has been a focus on IHC evaluation of Ki-67 as a predictor of breast cancer outcome. Kumaki et al. reviewed our present understanding of the IHC evaluation of biomarkers for breast cancer under NAC.

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