The Predictive Value of Tumor Proliferative index (Ki67) for Adjuvant Chemotherapy in Node-negative, Hormone Receptor-positive Breast Cancer

Apisada Sutepvarnon, M.D., Vichien Srimuninnimit, M.D. and Malee Warnnissorn, M.D.

The Thai Cancer, 2016, 31.55.004

**Background:** Ki67 labeling index (Ki67 LI) is a measure of tumor proliferation. In breast cancer, evidence supporting its prognostic value is clear and its predictive value for response to treatment finds some benefits. However, studies of Ki67 LI as a predictive marker in early breast cancer are still limited in worldwide and no data in Thailand. Therefore, we assessed the predictive value of Ki67 expression for adjuvant chemotherapy in patients with node-negative, hormone receptor-positive breast cancer.

**Method:** We retrospectively evaluated 127 diagnosed early breast cancer with node-negative, hormone receptor-positive patients and receiving adjuvant systemic treatment at Siriraj hospital. Disease free survival (DFS) was compared with the log-rank test according to Ki67 LI and adjuvant systemic treatment (chemoendocrine therapy and endocrine therapy alone).

**Results:** At a median follow up of 3.3 years (range 0.09 to 7.59 years). The 5-year DFS rate was 79% for patients with low Ki67 expression and 75% for patients with high Ki67 expression but not found a statistical significance between Ki67 LI and DFS of all patients (median survival not reached for either group; log-rank \( P = 0.398 \)). Of the 127 patients, 56 (44.1%) received chemoendocrine therapy and 71 (55.9%) were treated with endocrine therapy alone. There was no different effect of DFS among adjuvant endocrine therapy alone and adjuvant chemoendocrine therapy depending on low Ki67 expression and high Ki67 expression (Log-rank \( P = 0.519 \) and \( P = 0.599 \), respectively).

**Conclusion:** Among patients with node-negative, hormone receptor-positive breast cancer, a high Ki67 LI had worse DFS trend than a low Ki67 LI but the Ki67 LI did not predict the efficacy of adjuvant chemotherapy.