Abstract

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Predictors of Breast Cancer Specific Survival of Patients with Node-negative Breast Cancer

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The axillary lymph node status is one of the most important prognostic factors of breast cancer (BC). Increasing the number of positive lymph nodes decreases the survival. It is important to know what factors predict the prognosis when there is no lymph node metastasis.

This study was designed to determine the predictive factors of breast cancer specific survival (BCSS) of patients with lymph node-negative (LNN) BC.

The study included all LNN invasive BC patients who had sought the services of our unit from 2006 to 2012. Patients who had received neoadjuvant chemotherapy were excluded. Histopathology data were collected retrospectively from the laboratory records. Nottingham grading and scoring of estrogen receptors (ER), progesterone receptors (PR) and Her2 expressions for all BCs were done by a single investigator. After enrolling, the study subjects were followed up at six months intervals. The study ended on 31st December 2013. BCSS time was defined as the time elapsed from the date of diagnosis of breast cancer to the event; death due to BC. Kaplan-Meier and Cox-regression models were used for statistical analysis.

This study comprised 350 LNN invasive BC patients (mean age 53.8±11.5 years). **The majority had T2 (2-5cm) (58%), grade 2/3 (90%), ER negative (65%), PR negative (62%) and Her2 negative (79%) BCs with no lympho-vascular invasion (81%).** Chemotherapy(81%), radiotherapy(56%), taxol drugs(15%), endocrine therapy(64%) and trastuzumab(9%) had been given based on the tumour characteristics.

The mean survival time was 130 months. Five year BCSS was 93%. Univariate and multivariate analyses revealed that only **Nottingham Prognostic Index-NPI** (*p=0.038*) and Her2 expression (*p=0.039*) affected the BCSS. Tumour size, Nottingham grade, **lympho-vascular invasion**, stage, expression of ER and PR and triple negative status had no significant effect on the BCSS *(p>0.05)*.

In conclusion, our study indicates that the NPI and the Her2 status are the independent predictors of BCSS in LNN breast cancer patients.

Keywords: Breast cancer specific survival, lymph-node negative, Nottingham Prognostic Index, prognostic factors