The Clinicopathologic Characteristics and Prognostic Significance of Triple-Negativity in Node-Negative Breast Cancer

Abstract

~~Purpose:~~ ~~Recent studies have suggested that triple~~Triple-negative (TN) breast cancer, which is defined as being negative for the estrogen receptor, the progesterone receptor, and the human epidermal growth factor receptor 2 (HER-2), ~~defined as hormone receptors-negative and HER2-negative,~~ represents a subset of breast cancer with ~~different~~ distinct biological behaviour. We investigated the clinicopathologic characteristics and prognostic indicators of lymph node-negative TN breast cancer. ~~triple-negativity and its prognostic significance in node-negative breast cancer.~~

~~**Patients and Methods:**~~ Medical records were reviewed from p~~P~~atients ~~who were diagnosed~~ with node-negative breast cancer ~~and~~ who underwent curative surgery at XXXXXXX XXXX Hospital between January~~.~~ 2000 and June~~.~~ 2003. ~~were reviewed. Clinicopathologic variables and relapse-free survival (RFS) of TN breast cancer were compared with those of non-TN breast cancer.~~

~~Results:~~ Among 683 patients included,~~were diagnosed with node-negative breast cancer among a cohort of 1,136 patients who underwent curative surgery.~~ 154 had TN breast cancer and 529 ~~Compared with~~ had non-TN breast cancer.~~,~~ TN breast cancer ~~(n = 154)~~ correlated with younger age (~~age~~ < 35 y, $p = 0.003$), and higher histologic ~~grade ($p < 0.001$)~~ and nuclear grade ($p < 0.001$). ~~Moreover, TN breast cancer~~It also correlated with a molecular profile associated with biological aggressiveness: negative staining of bcl-2 ($p < 0.001$), positive staining of epidermal growth factor receptor~~EGFR~~ ($p < 0.001$), and a high expression level of p53 ($p < 0.001$) and Ki67 ($p < 0.001$)~~, which are suggestive of the biologic aggressiveness~~. The relapse rates ~~D~~during

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the follow-up period (median, 58.7 months)~~,~~ were 14.9% ~~of~~ for TN breast cancer and 6.6% ~~of~~ for non-TN breast cancer ~~relapsed~~ (p = 0.001). Relapse free survival (RFS) was significantly shorter ~~in the~~among patients with TN breast cancer ~~compared to that of~~than those with non-TN breast cancer (4-year RFS rate 85.2% *vs.* 94.2%, respectively; p = 0.005). On multivariate analysis, ~~Young~~ young age, close resection margin, and triple-negativity were independent predictors of ~~rognostic factors for~~ shorter RFS~~.~~ ~~in multivariate analysis.~~

~~**Conclusions:**~~ In conclusion, TN breast cancer had a higher relapse rate and more aggressive clinicopathologic characteristics ~~compared to~~than did non-TN ~~in~~ node-negative breast cancer. Thus, TN breast cancer should be integrated into the risk factor analysis for node-negative breast cancer.

Key words: Breast cancer, triple-negative, lymph node negative, prognostic factor

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