

Can Neutrophil to Lymphocyte Ratio Be a Predictor Tool for The Non-Sentinel Lymph Node Metastasis in Breast Cancer?

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Abstract

Background: To investigate the relationship between neutrophil to lymphocyte ratio (NLR) and non-sentinel lymph node (SLN) metastasis in early stages of breast cancer

Methods: Records of patients with clinically early stage (cT1-T3, N0) invasive breast cancer who underwent SLN biopsy in combination with blue dye and lymphoscintigraphy between April 2015 and January 2017 were noted retrospectively. Pre-treatment NLR of the patients with and without non-SLN metastasis were compared.

Results: A total of 178 patients with a mean age of 51,65±10,93 years were included. NLR was statistically significant in the non-SLN positive patients (p=0.011). Lymphovascular invasion and extracapsular extension of SLN were more common in the non-SLN positive group (all p<0.05). The ODDS value was found to be 3,733 (95% CI: 1,05-13,24) and the risk of metastasis in those with lymphovascular invasion was 3.73 fold. The ODDS value was found to be 10,267 (95% CI: 2,63-40,12) and the risk of metastasis was 10,267 times greater in those with capsule spread.

Conclusion: Lymphovascular invasion, extracapsular extension and NLR are the predictive parameters of non-SLN positivity. Pre-surgical NLR is a useful diagnostic tool for predicting non-SLN metastasis.

Key words: breast cancer, neutrophil to lymphocyte ratio, non-sentinel lymph node, sentinel lymph node metastasis