AB014. SOH23ABS_149. Exploring neutrophil-lymphocyte ratio as a predictor of postoperative breast cancer recurrence

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Background: Neutrophil-lymphocyte ratio (NLR) is an emerging prognostic biomarker with potential utility in solid malignancies. Routine inclusion of the full blood count in preoperative workup and postoperative course positions NLR as a cost-effective adjunct in surveillance. This project explores associations between preoperative NLR and breast cancer recurrence.

Methods: This retrospective cohort study reviewed an institutional database of breast cancer patients undergoing primary curative surgery at University Hospital Limerick from January 1, 2010 to June 1, 2017. Primary endpoints were local recurrence and distant metastasis at 5 years. Logistic regression modelling examined the association between preoperative NLR ≥2.5 and each endpoint, controlling for confounders.

Results: In the included cohort of 579 cases, the recurrence rate was 15.7% (6% local recurrence and 9.7% distant metastasis at 5 years). This cohort had a median preoperative NLR of 2.63 (standard deviation 1.42). No relationship was found between NLR ≥2.5 and local recurrence at 5 years. Patients with NLR ≥2.5 had a two-fold increase in rate of distant metastasis at 5 years (odds ratio 2.00, 95% confidence interval: 1.05–3.81, P=0.036), after adjusting for oestrogen receptor status, HER2 status, endocrine therapy, node-positive disease, and pathological stage T3 or T4.

Conclusions: Preoperative NLR ≥2.5 was found to be an independent predictor of distant metastasis at 5 years following adjustment of confounders. This finding is consistent with published literature and may have profound impact on surveillance of breast cancer upon further validation.

Keywords: Breast cancer; breast cancer recurrence; breast cancer metastasis; neutrophil lymphocyte ratio; breast cancer surveillance

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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