



AB055. SOH24AB_245. Value of pre-treatment circulating inflammatory response markers in predicting response to neoadjuvant treatment of breast cancer: a systematic review & meta-analysis

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Background: Systemic inflammatory response markers have been found to have a prognostic role in several cancers, but their value in predicting response to neoadjuvant chemotherapy is uncertain. A systematic review and meta-analysis of the literature was carried out to investigate this.

Methods: A systematic search of electronic databases was conducted to identify studies that explored the predictive value of circulating systemic inflammatory response markers in patients with breast cancer prior to commencing neoadjuvant therapy. A meta-analysis was undertaken for each inflammatory marker where three or more studies reported pathological complete response (pCR) rates in relation to the inflammatory marker. Outcome data were reported as odds ratios (ORs) using 95% confidence intervals (CIs).

Results: Forty-nine studies were included in total, of which 42 were suitable for meta-analysis. Lower pre-treatment neutrophil-lymphocyte-ratio (NLR) was associated with an increased rate of pCR (pooled OR: 1.66, 95% CI: 1.32–2.09; $P < 0.001$). Lower white cell count (WCC) (OR: 1.96, 95% CI: 1.29–2.97, $P = 0.002$) and lower monocyte count (OR: 3.20, 95% CI: 1.71–5.97) were also associated with pCR. Higher lymphocyte count was associated with increased

pCR rate (OR: 0.44, 95% CI: 0.30–0.64, $P < 0.0001$).

Conclusions: The present study found pre-treatment NLR, WCC, lymphocyte count and monocyte count of value in the prediction of pCR in the neoadjuvant treatment of breast cancer. However, further research is required to determine their value in specific breast cancer subtypes and to establish optimal cut-off values, prior to their adoption in clinical practice.

Keywords: Breast cancer; neoadjuvant therapy; surgical oncology; pathological complete response (pCR); predictive factors

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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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