**Detecting Ischaemia in Adhesional Small Bowel Obstruction: Predictive value of Platelet-Lymphocyte Ratio and Neutrophil-Lymphocyte Ratio**

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*Purpose*

Currently used biomarkers have poor capacity for predicting bowel ischaemia in patients with adhesional small bowel obstruction (SBO). Prior studies have demonstrated some utility of platelet-lymphocyte ratio (PLR) and neutrophil-lymphocyte ratio (NLR) in detection of visceral ischaemia. Our study investigated whether PLR and NLR could predict bowel ischaemia in adhesional SBO.

*Methods*

This single-centre retrospective study collected data from consecutive patients with adhesional SBO between 2017-2020 who underwent operative management. The presence or absence of bowel ischaemia was used to separate patients into two groups. Data regarding PLR and NLR were obtained from time of admission (PLR0 and NLR0) and immediately prior to operation (PLRPRE-OP and NLRPRE-OP). Data regarding CT and operative diagnosis of bowel ischaemia were also collected.

*Results*

100 patients fulfilled inclusion criteria. Twenty-seven (27%) patients had bowel ischaemia at time of operation. Median PLRPRE-OP and NLRPRE-OP were significantly higher in patients with bowel ischaemia compared to those without (PLRPRE-OP 272 vs 231, p=0.027; NLRPRE-OP 12.5 vs. 5.5, p=<0.001). Of the reviewed biomarkers, NLRPRE-OP had a better ability to predict bowel ischaemia with an area under the receiver operator characteristic curve (AUC) of 0.762, with an optimal threshold cut-off of 7.4 giving a sensitivity of 85.1% and specificity of 63%. Within our study, CT had a sensitivity of 87.7% and specificity of 37% for predicting bowel ischaemia.

*Conclusion*

PLR and NLR may be useful biomarkers for the detection of bowel ischaemia in patients with adhesional SBO.