

AN EASILY ACQUIRABLE PREDICTIVE MODEL FOR STRANGULATED BOWEL OBSTRUCTION: THE BAR-N

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A predictive model called BAR-N incorporating rebound tenderness, BMI, neutrophil percentage, and AST was developed to distinguish strangulated from simple small bowel obstruction in 453 patients with high specificity (97.3%) and moderate discriminatory ability (AUC 0.773–0.778).

KEY POINTS

- Among 453 patients with small bowel obstruction, 13.7% had strangulated bowel obstruction (StBO) and 86.3% had simple bowel obstruction.
- Multivariable logistic regression identified rebound tenderness (OR 6.65), BMI (OR 0.02), neutrophil percentage (OR 24.14), and AST (OR 1.97) as significantly associated with intestinal ischemia.
- The BAR-N model achieved an AUC of 0.773 in the training cohort and 0.778 in the validation cohort, with 97.3% specificity and 82.2% accuracy.
- The model was designed to be easy to acquire using clinical symptoms and laboratory tests to predict StBO, which can lead to life-threatening complications such as septic shock and multiple organ dysfunction syndrome.
- This material would be most relevant to clinicians managing patients with suspected small bowel obstruction who need to assess risk of strangulation.

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