

PREDICTORS OF SURGICAL INTERVENTION IN ADHESIVE SMALL BOWEL OBSTRUCTION: A TERTIARY-CARE RETROSPECTIVE STUDY

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ABSTRACT

Background: Adhesive small bowel obstruction (SBO) is a common acute surgical presentation. A shift toward non-operative management has made early identification of patients who will fail conservative therapy an important clinical goal.

Methods: In this retrospective analytical study, 50 consecutive patients with adhesive SBO (November 2023–January 2024) were divided into an operative group (Group A, including patients who failed initial non-operative management) and a non-operative group (Group B). Clinical, biochemical, and imaging data were collected; imaging was reviewed by a radiologist blinded to outcomes.

Results: Clinical symptoms (nausea, vomiting, obstipation) did not clearly distinguish the groups, whereas abdominal pain and distension differed. Cross-sectional imaging findings — a definite transition point, free intraperitoneal fluid, and absence of the small-bowel faeces sign — were reported as predictive of the need for surgery.

Conclusion: CT findings, rather than clinical symptoms, best predict failure of non-operative management in adhesive SBO and should prompt early surgical planning; the statistical analysis requires correction before definitive inference.

KEYWORD: Functional food, functional bar, Iron Rich, Female athletes, Sports nutrition, Iron status, Haemoglobin, Serum Ferritin, Aerobic capacity, Muscular endurance.

INTRODUCTION

Small bowel obstruction accounts for approximately 15% of acute-care surgical admissions, and the majority of cases arise from postoperative adhesions or incarcerated hernia. Over the past decade, management has shifted from routine exploratory laparotomy toward non-operative management of adhesive SBO, which succeeds in a substantial proportion of patients. However, a subset fails conservative treatment and requires surgery, and delayed operation risks bowel ischaemia and resection. Several studies have examined clinical, laboratory, and imaging predictors of non-operative failure, with mixed sensitivity and specificity, partly because clinical findings are subjective and dependent on the examiner's experience [1,2]. Early identification of patients likely to fail non-operative management therefore remains a key challenge.

Objective

To evaluate the predictors of surgical intervention in the management of adhesive small bowel obstruction in a tertiary-care setting.

MATERIALS AND METHODS

This retrospective analytical study assessed 50 consecutive patients with adhesive SBO managed between November 2023 and January 2024. Patients were divided into Group A (operative, including those who failed initial non-operative management) and Group B (non-operative). Data collected included clinical presentation, biochemistry, imaging (computed tomography and plain radiography), and management outcomes. Imaging studies were analysed independently by a radiologist blinded to clinical outcomes.

Statistical Analysis

As reported, one-way analysis of variance (ANOVA) was performed in SPSS, with a two-sided p value < 0.05 considered statistically significant.

RESULTS

Clinical symptoms did not consistently separate the groups: nausea, vomiting, and obstipation were similar between groups, whereas abdominal pain was more frequent in the operative group and abdominal distension in the non-operative group (Table 1). The most informative predictors were imaging findings: on CT, a definite transition point, presence of free fluid, and absence of the small-bowel faeces sign were reported as predictive of the need for surgical intervention. Numerical data for these imaging predictors were not tabulated on the source poster and should be added to the final manuscript.

Table 1. Reported clinical and management variables by group.

Variable	Group A (operative)	Group B (non-operative)	Reported p value
Nausea	24	26	0.17
Vomiting	18	22	0.24
Abdominal pain	32	18	0.014
Abdominal distension	14	36	0.036
Obstipation	23	27	0.018
Operative	38	12	0.032
Non-operative	17	33	0.142

DISCUSSION

Adhesive SBO remains a common acute surgical presentation, and the optimal management pathway continues to be debated. Systematic reviews and meta-analyses comparing operative and non-operative management have produced mixed results, largely owing to heterogeneous comparison groups [1,2]. Several groups have proposed prediction models combining clinical and radiological features to identify patients unlikely to resolve without surgery [3]. Consistent with these efforts, the present study found that objective CT features — a definite transition point, free fluid, and absence of the small-bowel faeces sign — were more predictive of surgical need than subjective clinical symptoms. These features are readily identifiable on routine imaging and could support earlier surgical decision-making. Limitations include the small retrospective single-centre sample, the absence of tabulated imaging-predictor data and effect estimates, internal inconsistencies in the reported counts, and the inappropriate statistical test.

CONCLUSION

This study supports the value of CT findings in predicting which patients with adhesive SBO are unlikely to resolve with non-operative management. The identified features are easily detected and should encourage close monitoring and early surgical planning when conservative management is failing, to prevent progression to bowel ischaemia and resection. Confirmation requires a corrected, adequately powered analysis with multivariable modelling and reported effect estimates.

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