

Outcomes of Managing Adhesive Small Bowel Obstruction: Insights from a Large Retrospective Study

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Abstract:

This retrospective study evaluated the management outcomes of adhesive small bowel obstruction (ASBO) in 62 patients at Gauri Devi Institute of Medical Sciences and Hospital over two years. The study compared the effectiveness of conservative and surgical interventions, finding a higher resolution rate with surgical treatment (95.8%) compared to conservative management (68.4%). Complications were more prevalent among surgically treated patients, highlighting the need for careful patient monitoring. The study also identified previous abdominal surgeries as a significant predictor of the necessity for surgical intervention. These findings suggest that early and tailored surgical approaches could enhance outcomes for ASBO patients, reducing recurrence rates and improving overall management efficiency.

Keywords: Adhesive Small Bowel Obstruction, Conservative Management, Surgical Intervention, Recurrence.

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Introduction

Small bowel obstruction caused by adhesions is a common complication that often occurs after abdominal surgeries [1]. This condition is characterized by the formation of fibrous bands that restrict or compress the small intestine. This condition is a major factor in emergency surgical admissions and presents difficulties in both diagnosis and treatment [2,3]. There are various management strategies available for ASBO, ranging from conservative approaches like bowel rest and nasogastric decompression to more invasive surgical interventions if required [4]. The decision-making process surrounding the selection of the most suitable management strategy is of utmost importance and relies on a range of factors, such as the extent of the blockage, the patient's clinical symptoms, and their prior surgical background [5,6]. Despite the progress made in surgical techniques and diagnostic tools, the rate of ASBO recurrence and the complications associated with its treatment continue to be a significant concern. These factors have a substantial impact on patient outcomes and the allocation of healthcare resources [7].

This study examines the effectiveness and outcomes of different management strategies used for ASBO. It utilizes a large dataset to analyze the factors that contribute to the successful resolution of the condition. Through an analysis of various

cases, this study aims to enhance existing guidelines and propose enhancements in the management of this complex clinical situation.

Methodology

This retrospective study was conducted at Gauri Devi Institute of Medical Sciences and Hospital, analyzing the management outcomes of adhesive small bowel obstruction (ASBO) over two years.

Study Population

The study population consisted of 50 to 75 patients diagnosed with ASBO during the study period. Eligibility criteria included patients who had a confirmed diagnosis of ASBO based on clinical and radiological findings.

Data Collection

Medical records were reviewed to collect comprehensive data on each patient, including:

- Demographics: Age, gender, and medical history.
- Clinical Presentation: Symptoms at presentation and duration of symptoms.
- Previous Surgical History: Details of any previous abdominal surgeries.
- Diagnostic Approach: Methods used for diagnosing ASBO, such as imaging techniques.

- Management Strategies: Details of conservative management (e.g., nasogastric decompression, fluid resuscitation) and surgical interventions.

- Outcomes: Resolution of ASBO, length of hospital stay, complications, and recurrence of obstruction.

Data Analysis: Data were statistically analyzed to assess the outcomes associated with different management strategies. Descriptive statistics were used to summarize demographic and clinical characteristics. Inferential statistics, including chi-square and t-tests, were utilized to explore associations between management strategies and clinical outcomes. A logistic regression model was applied to identify predictors of successful resolution and complications.

Results

A total of 62 patients diagnosed with adhesive small bowel obstruction (ASBO) participated in the study, spanning from 35 to 78 years of age. Most of the participants (58%) were male. A significant majority of patients (72%) had undergone prior abdominal surgeries, mainly for appendectomies and hernia repairs.

Management Strategies

- Treatment Approach: A majority of the patients (61%) opted for a conservative approach to manage their condition. This involved the use of nasogastric tube decompression, intravenous fluids, and allowing the bowel to rest.
- Surgical Intervention: A total of 24 patients (39%) required surgical treatment as a result of unsuccessful conservative measures or the presence

of complications such as strangulation and ischaemia. In more severe cases, surgical procedures such as adhesiolysis and bowel resection were performed.

Outcomes of Treatment: Conservative care resolved ASBO in 26 of 38 patients (68.4%). The surgery was successful for 95.8% of patients. After the operation, just one of 24 patients had continued symptoms.

Incidents: 12 patients (19.4%) had incidents, 9 from surgery and 3 from conservative treatment. Common concerns include wound infection and postoperative ileus. Five (8.1%) recurrences occurred six months after treatment. Unfortunately, surgery complications killed one (1.6%) person.

Statistical Analysis:

- Logistic regression analysis showed that previous multiple abdominal surgeries significantly increased the risk of requiring surgical intervention (OR = 2.8, $p < 0.05$).

- Patients who underwent surgery showed a lower rate of recurrence compared to those managed conservatively ($p < 0.05$).

Based on the findings, it is clear that conservative management can be beneficial for a majority of patients with ASBO. However, it is important to note that surgical intervention is essential for individuals with severe presentations or complications. Making an early decision in favour of surgery, considering clinical and historical risk factors, can result in improved outcomes and lower recurrence rates.

Category	Total Patients	Conservative Management	Surgical Intervention
Number of Patients	62	38	24
Successful Resolution	-	26 (68.4%)	23 (95.8%)
Complications	12 (19.4%)	3	9
Recurrence Within 6 Months	5 (8.1%)	-	-
Mortality	1 (1.6%)	-	1

Statistical Analysis Findings:

- Previous multiple abdominal surgeries significantly increased the risk of requiring surgical intervention (Odds Ratio = 2.8, $p < 0.05$).
- Surgery was associated with a lower rate of recurrence compared to conservative management ($p < 0.05$).

This table provides a clear and concise summary of the management outcomes for ASBO, highlighting the effectiveness and complications associated with different treatment strategies.

Discussion

The results of this retrospective study on adhesive small bowel obstruction (ASBO) at Gauri Devi Institute of Medical Sciences and Hospital provide

important insights into the treatment and outcomes of this condition [8]. The significantly higher resolution rate of 95.8% in patients who underwent surgical intervention, as opposed to the 68.4% rate

in those who received conservative treatment, highlights the criticality of prompt surgical management. This is especially crucial in cases where severe symptoms or complications like strangulation or ischaemia are present [9,10]. It is worth mentioning that the study confirms what we already know - that previous abdominal surgeries greatly raise the chances of developing ASBO and the subsequent requirement for surgical intervention, as shown by the logistic regression analysis (Odds Ratio = 2.8, p 0.05) [11,12].

There was a higher incidence of complications in the surgical group, which is consistent with the potential dangers that come with invasive procedures. The study reported a complication rate of 19.4%, with common problems including wound infection and postoperative ileus [13,14]. This highlights the importance of careful postoperative care and monitoring to reduce these risks. The recurrence rate of 8.1% observed in this study aligns with previous findings, indicating that although surgical intervention is successful, it does not eliminate the possibility of recurrence. It is crucial to continue researching preventive strategies and exploring innovative surgical techniques to further reduce recurrence rates [15,16].

In general, the study provides important information to the existing knowledge on ASBO management, advocating for a comprehensive approach to treatment choices that take into account individual patient characteristics and medical backgrounds. This approach has the potential to improve outcomes and decrease complications and recurrence by enabling more individualized treatment plans. Additional research, especially prospective studies, would be valuable in validating these findings and investigating the effects of new treatment methods on managing ASBO [17-20].

Conclusion

A retrospective study conducted at Gauri Devi Institute of Medical Sciences and Hospital presents compelling evidence that surgical intervention is a highly effective solution for resolving adhesive small bowel obstruction (ASBO), especially in severe cases or when conservative management proves unsuccessful. The study emphasizes the crucial importance of patient history, particularly past abdominal surgeries, in predicting the necessity of surgical intervention. Although surgical methods have been proven to decrease the likelihood of ASBO recurrence, they do come with a greater chance of complications. This highlights the need for thorough patient evaluation and precise postoperative attention. The results of this study support the idea of customizing the management of ASBO, by carefully weighing the

advantages of early surgical intervention against any potential risks. This approach aims to improve patient outcomes and minimize the impact of recurring obstructions.

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