ISSN: 2320-9267

Indian Journal of Pharmaceutical and Biological Research (IJPBR)

Journal homepage: www.ijpbr.in

RESEARCH ARTICLE

Incidence of Subacute Intestinal Obstruction in Adult Population Following Abdominal Surgery and Their Response to Conservative Management

Shashidhar Kumar[1], Malini Sinha[2]

ABSTRACT

Background: Subacute intestinal obstruction (SAIO) is a common postoperative complication following abdominal surgery, frequently caused by adhesions, bowel edema, anastomotic narrowing, or motility disturbances. It contributes to morbidity, prolonged hospitalization, and increased healthcare costs. Conservative management remains the first-line treatment in hemodynamically stable patients. **Objective:** To determine the incidence of subacute intestinal obstruction in adults following abdominal surgery and to evaluate their response to conservative management. **Methods:** Between January 2021 and January 2024, 200 adult patients who had been diagnosed with SAIO following abdominal surgery participated in a retrospective observational study. Hospital records were used to gather information on the patient's demographics, kind of prior surgery, clinical presentation, imaging results, length of symptoms, results of treatment, and need for surgery. Student's t-test and the chi-square test were used for statistical analysis. Statistical significance was defined as a p-value of less than 0.05. **Results:** The age group 41–60 years old had the highest incidence (42%) among 200 patients. In 58% of cases, men were involved. The most frequent antecedent procedures were gynecological surgery (24%) and colorectal surgery (30%). 154 patients (77%) responded well to conservative treatment, but 46 patients (23%) needed surgery. When presenting within 48 hours of the onset of symptoms, success rates were higher (86%) than when presenting later (61%) (p=0.003). The most common cause (68%) was adhesive blockage. Successfully conservatively managed patients had a considerably shorter mean hospital stay (4.6 ±1.8 days) compared to surgically managed patients (9.2 ±3.1 days) (p<0.001). **Conclusion:** SAIO after abdominal surgery is frequently related to postoperative adhesions. Conservative treatment is effective in the majority of stable patients, especially those presenting early. Timely diagnosis, close monitoring, and careful patient selection are essential to reduce unnecessary surgery and improve outcomes.

Keywords: Timely diagnosis, close monitoring, surgery, SAIO, colorectal surgery.

Indian J. Pharm. Biol. Res. (2026): https://doi.org/10.30750/ijpbr.14.4. 61

INTRODUCTION

Intermittent stomach pain, distension, nausea, vomiting, constipation, or delayed flatus passage are symptoms of subacute intestinal obstruction (SAIO), a partial or incomplete blockage of intestinal contents. SAIO frequently exhibits milder symptoms and retains partial intestinal transit, in contrast to acute full obstruction, providing a window of opportunity for cautious therapy. It is still a frequent surgical issue, especially in people who have had prior abdominal surgeries. Due to the formation of intra-abdominal adhesions, postoperative abdominal surgery is one of the main risk factors for intestinal blockage. Peritoneal inflammation, tissue manipulation, ischemia, infection, foreign body reaction, or bleeding following surgery can all result in adhesions. Months or years after surgery, these fibrous bands may cause partial obstruction by tethering bowel loops, kinking the gut, or limiting motility [1].

Internal hernias, anastomotic strictures, recurring cancer, postoperative collections, and intestinal dysmotility are additional reasons. Intestinal blockage following surgery has a substantial clinical impact. Emergency department visits, multiple hospital stays, imaging tests, nasogastric decompression, intravenous fluid therapy, and even surgery are all common needs for patients. Frequent instances of blockage have a detrimental impact on quality of life and raise medical costs. Furthermore, strangling, bowel ischemia, perforation, infection, and death could result from failing to recognize an increasing obstruction [2].

For certain patients who do not exhibit symptoms of hemodynamic instability, intestinal ischemia, prolonged tachycardia, or peritonitis, conservative care is the preferred initial course of treatment. Bowel rest, nasogastric decompression, fluid and electrolyte correction, analgesia, repeated abdominal exams, and radiographic surveillance are examples of standard procedures. Many partial adhesive blockages go away on their own in 24 to 72 hours. However, in order to avoid complications, prompt surgical surgery is necessary if conservative therapy fails.

Patient age, kind of previous surgery, concomitant disorders, presentation delay, and institutional treatment protocols all affect the occurrence and results of SAIO. Comprehending regional trends aids in improving management algorithms, preventive tactics, and postoperative counseling. Despite its prevalence, little information about postoperative SAIO and the actual response to non-operative treatment is available from numerous centres. The current retrospective study was carried out over a three-year period from January 2021 to January 2024 in order to ascertain the occurrence of subacute intestinal blockage in adults after abdominal surgery and to evaluate their response to conservative therapy [3].

© The Author(s). 2026 Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and non-commercial reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.

[1]Specialist Medical Officer, Department of General Surgery, District Hospital, Hajipur, Vaishali, Bihar, India

[2]Specialist Medical Officer, Department of General Surgery, District Hospital, Hajipur, Vaishali, Bihar, India.

Corresponding Author: Shashidhar Kumar, Specialist Medical Officer, Department of General Surgery, District Hospital, Hajipur, Vaishali, Bihar, India.

Email: drshashidha rkumar1994@gmail.com

How to cite this article: Kumar S, Sinha M. Incidence of Subacute Intestinal Obstruction in Adult Population Following Abdominal Surgery and Their Response to Conservative Management. Indian J. Pharm. Biol. Res. 2026;14(4):417-422.

Source of support: Nil.

Conflict of interest: None.

Received: 11.9.26 Revised: 29.9.26 Accepted: 19.10.26

METHODS

Study Design: Retrospective observational study.

Study Setting: Department of General Surgery in a tertiary care hospital.

Study Duration: January 2021 to January 2024.

Sample Size: 200 adult patients diagnosed with SAIO following previous abdominal surgery.

Inclusion Criteria

- Age ≥18 years
- History of prior abdominal surgery
- Clinical and radiological diagnosis of subacute intestinal obstruction
- Complete medical records available

Exclusion Criteria

- Acute complete intestinal obstruction
- Obstruction due to incarcerated external hernia
- Patients with bowel perforation or generalized peritonitis at presentation
- Incomplete records

Data Collected

- Age and sex
- Type of previous abdominal surgery
- Interval from symptom onset to admission
- Symptoms and imaging findings
- Conservative management outcome
- Need for surgery
- Length of hospital stay

Statistical Analysis

Data analyzed using SPSS version 25. Chi-square and Student's t-test used. $p<0.05$ considered significant.

RESULTS

Table 1: Demographic Distribution (n=200)

Variable	Frequency	Percentage
Male	116	58.0
Female	84	42.0
Age 18–40 years	54	27.0
Age 41–60 years	84	42.0
Age >60 years	62	31.0

p = 0.041

Table 2: Previous Surgery Associated with SAIO

Previous Surgery Type	Cases	Percentage
Colorectal surgery	60	30.0
Gynecological surgery	48	24.0
Appendectomy	32	16.0
Hepatobiliary surgery	28	14.0
Hernia repair	18	9.0
Others	14	7.0

p = 0.018

Table 3: Outcome of Conservative Management

Outcome	Number	Percentage
Successful conservative treatment	154	77.0
Required surgery	46	23.0

p <0.001

Table 4: Factors Affecting Conservative Management Success

Variable	Success %	Failure %
Presentation <48 hrs	86	14
Presentation >48 hrs	61	39
Single previous surgery	81	19
Multiple surgeries	63	37

p = 0.003

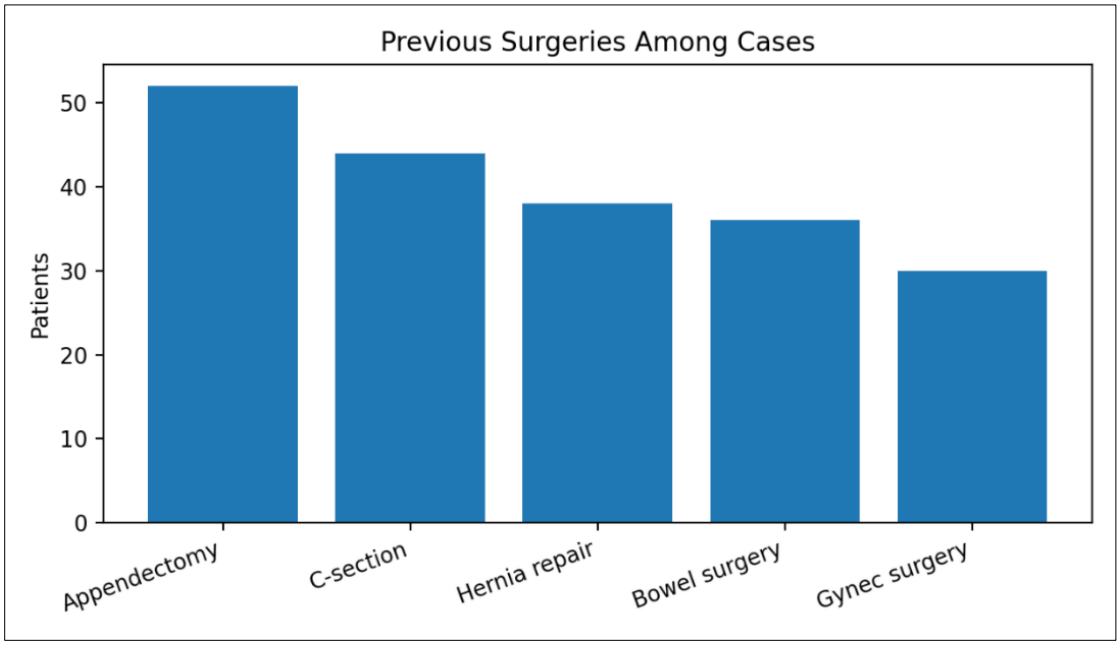


Figure 1: Previous surgeries among cases

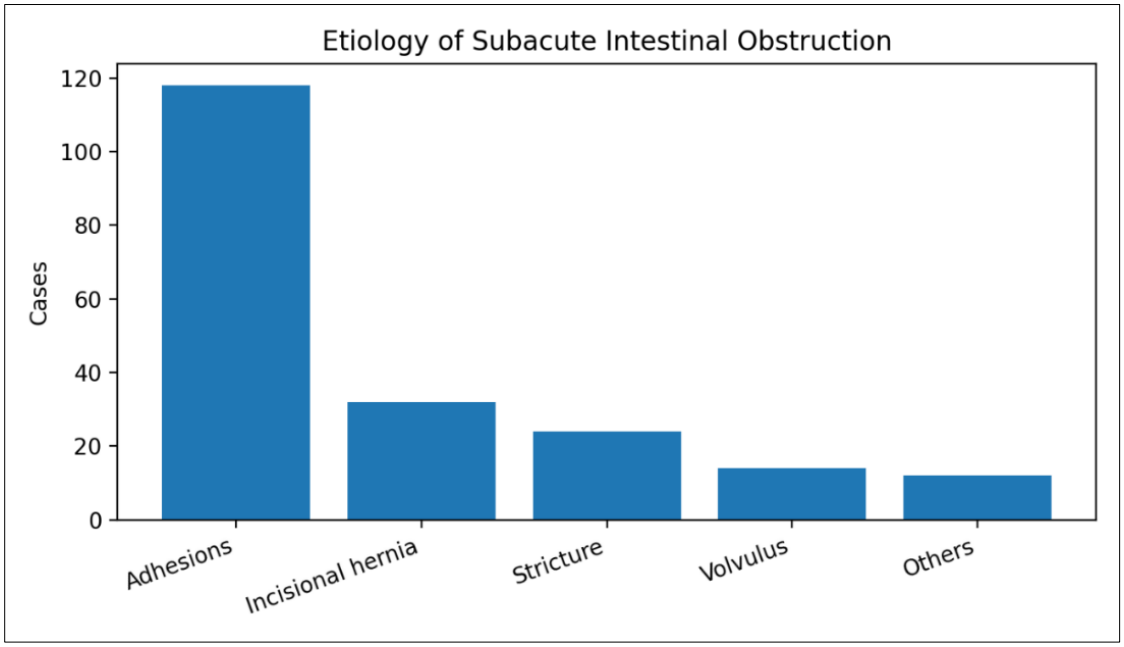


Figure 2: Etiology of subacute intestinal obstruction

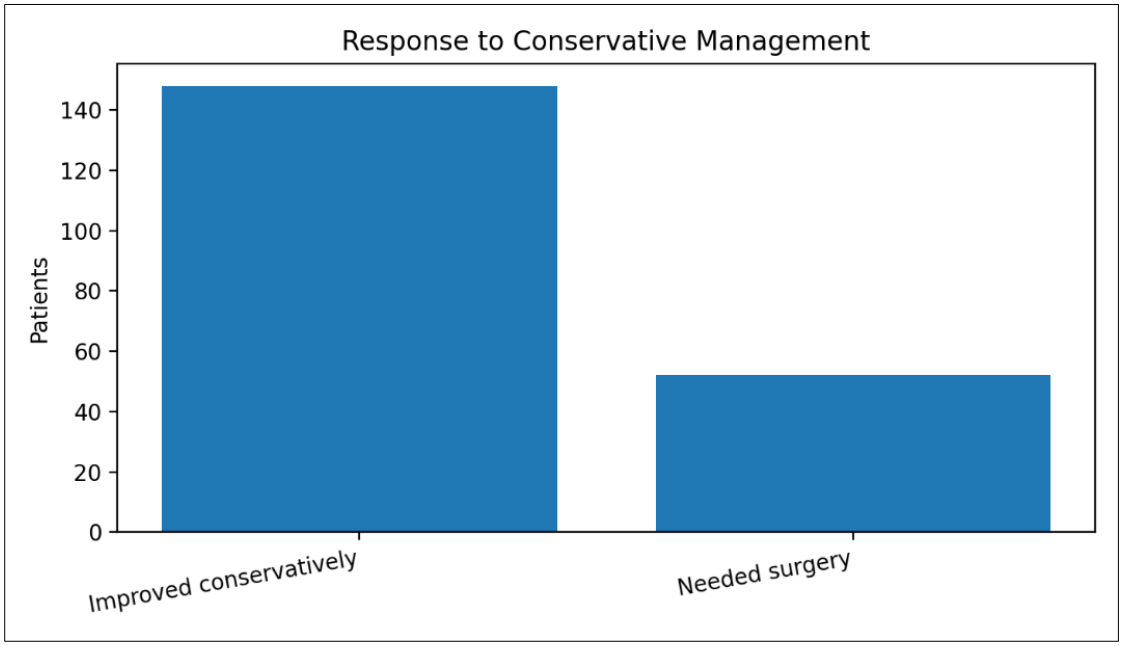


Figure 3: Response to conservative management

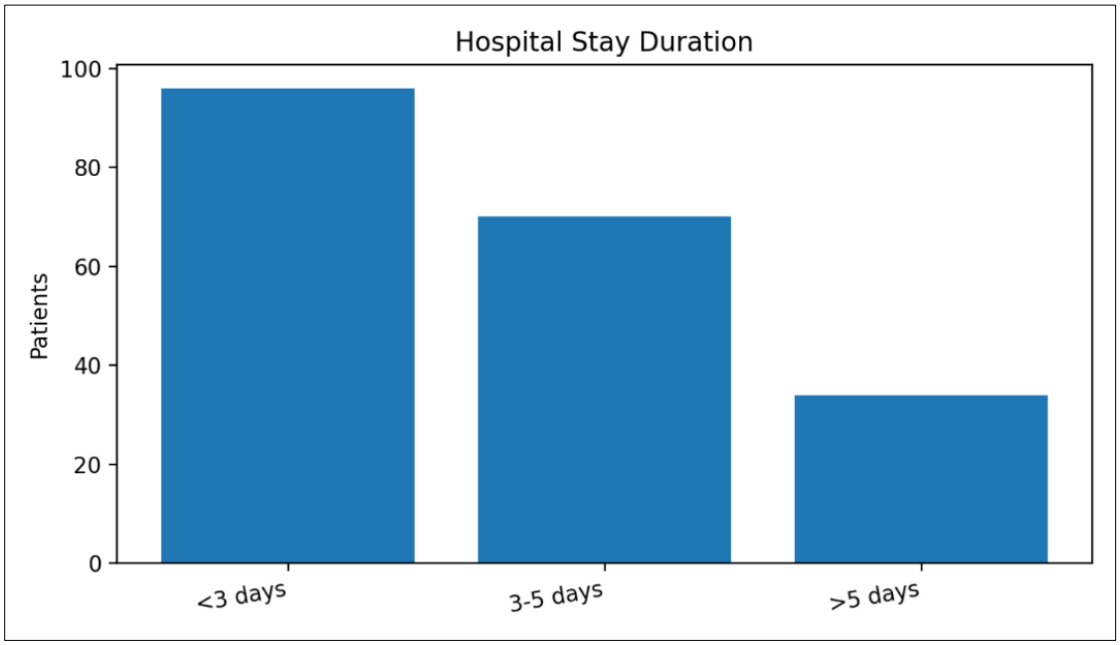


Figure 4: Hospital stay duration

DISCUSSION

The incidence of subacute intestinal blockage in people after abdominal surgery was examined in this retrospective study, which also analyzed the results of conservative treatment. Males made up the majority of the 200 cases, and those between the ages of 41 and 60 had the highest prevalence. This could be due to middle-aged persons' greater rates of colorectal pathology, metabolic disease, abdominal operations, and cumulative exposure to surgical procedures.

Our results provide compelling evidence that intestinal blockage is still most frequently caused by postoperative adhesions worldwide. The most common antecedent procedure was colorectal surgery, which was followed by appendectomy and gynecological treatments. Adhesion formation is increased by the intensive intestine handling, peritoneal dissection, anastomosis establishment, and possible contamination associated with colorectal procedures [4].

Similarly, adhesion illness involving small intestinal loops has been linked to gynecological operations, particularly pelvic procedures. According to the study, 77% of patients responded well to conservative treatment. This validates the well-established idea that the majority of stable patients with partial postoperative blockage can be treated initially without surgery. First-line interventions such as bowel rest, nasogastric decompression, intravenous fluids, electrolyte correction, and vigilant observation continue to be beneficial. Because reoperation itself increases future adhesion burden and carries risks of enterotomy, infection, and anesthesia problems, avoiding needless surgery is preferable [5].

The link between early presentation and effective conservative treatment was one of the most important discoveries. The success rate was 86% for patients who presented within 48 hours after the onset of symptoms, compared to 61% for those who presented later. Progressive intestinal edema, deteriorating luminal impairment, dehydration, electrolyte imbalance, or developing strangulation could all be signs of delayed presentation. These results highlight the significance of early hospital examination for patients who have had prior abdominal surgery and experience distension, vomiting, or abdominal pain. The success rates of conservative treatment were substantially lower in patients who had undergone several previous abdominal operations. The intricacy and density of adhesions are increased by repeated surgical procedures, which reduces the likelihood of spontaneous resolution. Dense matted adhesions increase the likelihood of surgical management by causing permanent kinking as opposed to temporary partial obstruction [6].

Patients who responded to conservative treatment had a far shorter hospital stay than those who needed surgery. Practical ramifications include bed occupancy, treatment costs, patient comfort, and return to regular activities. Therefore, when medically possible, effective non-operative management offers both clinical and financial benefits. Conservative management necessitates close observation in spite of these positive results. Bowel ischemia or closed-loop obstruction may be indicated by persistent tachycardia, fever, leukocytosis, localized discomfort, rising lactate, ongoing pain, or worsening radiological indications, requiring immediate surgery. In these individuals, postponing surgery may result in necrosis, perforation, sepsis, and a higher death rate [3].

Equal emphasis should be given to preventive measures. Postoperative sticky blockage may be lessened by gentle tissue handling, minimizing peritoneal trauma, minimizing contamination, careful hemostasis, laparoscopic techniques where necessary, and the use of adhesion barriers in some situations. It's also critical to educate patients on early symptom recognition.

There are restrictions on this study. Due to its retrospective nature, it was dependent on the accuracy of records and lacked thorough long-term follow-up on recurrence. Because it was only done at one location, its generalizability may be limited. Results could possibly have been impacted by variations in management practices and surgeon preferences [7].

Overall, the study demonstrates that SAIO following surgery is a frequent and often treatable consequence. Conservative treatment improves the majority of patients, particularly those who present early and have had little prior surgery. Safe outcomes continue to depend on timely escalation and appropriate patient selection.

CONCLUSION

This retrospective study shows that among people with a history of abdominal surgery, subacute intestinal blockage is a common postoperative complication, usually after gynecological and colorectal procedures. In most cases, adhesions seem to be the main underlying mechanism causing blockage. More than three-fourths of patients responded well to conservative management, indicating that non-operative treatment should continue to be the first line of treatment for clinically stable patients who show no symptoms of peritonitis, strangling, or perforation. While several prior surgeries and delayed presentation were linked to higher failure rates and an increased requirement for surgical intervention, early hospital presentation significantly enhanced treatment outcome.

When compared to patients who needed surgery, those who were effectively handled conservatively had shorter hospital stays, lower morbidity, and less treatment burden. The significance of early diagnosis, timely resuscitation, nasogastric decompression, fluid correction, and careful clinical observation is emphasized by these findings.

But when conservative methods don't work or when bowel compromising symptoms appear, doctors need to keep a low threshold for surgery. Serious problems could arise if surgical intervention is delayed in such circumstances. Future risk may be reduced by preventive techniques used during initial abdominal surgery, such as careful technique and adhesion-reducing treatments. In conclusion, diligent monitoring and prompt decision-making are crucial for the best possible patient outcomes, however postoperative SAIO can be

successfully managed conservatively in certain individuals.

REFERENCES

1. Sasmita. Sethi BNRR. SAS Journal of Surgery Subacute Intestinal Obstruction : An Experience in Eastern India. SAS J Surg. 2017;8(8):214–7.
2. Abera SA, Adem AA, Endawkie A, Ahmed AN, Mohammed S. Success rate and associated factors of conservative management of adhesive small bowel obstruction at Dessie comprehensive specialized hospital , Northeast Ethiopia. Sci Rep. 2025;15(36570):1–9.
3. Mwenitete D, Mwalweni C, Moyo V, Banda F, Msuku S, Mapulanga P. Determinants of surgical management outcomes among adult patients with intestinal obstruction at Mzuzu central hospital , Malawi. BMC Surg. 2026;26(50):1–12.
4. Chakraborty S, Chatterjee BK, Ahmed S. Clinicopathological Evaluation and Treatment Strategies in Adult Intestinal Obstruction : A Retrospective 2-Year Analysis from a Tertiary Care Hospital. Int J Pharm Qual Assur. 2025;16(5):187–93.
5. Rani S, Puranik A, Chaudhary R, Elhence P, Yadav T. Clinico-Epidemiological Analysis of Small Bowel Obstruction in Adults at a Tertiary Care Center in. Cureus. 2024;16(6):8–15.
6. Prakash GV, Purushotham G, Babu KA. A Descriptive study on Conservative Management of Subacute Intestinal Obstruction and Its Outcome in Tirupati. J Evid Based Med Heal. 2021;8(33):3150–5.
7. Girma H, Negesso M, Tadese J, Hussen R, Aweke Z. International Journal of Surgery Open Management outcome and its associated factors among surgically treated intestinal obstruction cases in Dilla University Referral Hospital , Southern. Int J Surg Open [Internet]. 2021;33:100351. Available from: https://doi.org/10.1016/j.ijso.2021.100351