Journal of Cardiovascular Disease Research
ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

# CLINICOEPIDERMIOLOGIC STUDY OF SMALL AND LARGE BOWEL OBSTRUCTION – IS THERE MORE ROLE FOR CONSERVATIVE MANAGEMENT

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## INTRODUCTION

Intestinal obstruction is the most prevalent surgical emergency globally, with variations influenced by age, sex, area, and socio-economic position. The obstruction of the gut is either mechanical or due to atony, hindering the progression of intestinal contents. Numerous predisposing variables may or may not be identified prior to surgery. While diagnosing intestinal blockage is straightforward, determining the underlying reason may prove more complex. The underlying cause may occasionally become apparent solely during laparotomy. The illness is associated with a significant risk of morbidity and mortality, underscoring the importance of early identification and care. The therapy may be conservative or surgical depending on the aetiology and necessitates sufficient fluid and electrolyte resuscitation. Timely surgical intervention is emphasised by the traditional adage: 'never allow the sun to set or rise on a case of unresolved intestinal obstruction' (3). Early intervention has resulted in a reduction of strangulation cases, which was a significant cause of mortality. Early diagnosis, vigorous resuscitation, prompt surgical intervention, enhanced surgical methods, and

sufficient postoperative care have improved outcomes in these patients. Consequently, we examined the diverse etiological variables and therapeutic strategies for intestinal blockage in a tertiary care facility.

## METHODS

This is a prospective observational study performed in the department of surgery, with case records collected over a period of 2 years i.e August 2022 and August 2025. All patients diagnosed with intestinal obstruction on imaging were included. Those patients that were unfit for surgery, or not willing for definitive management, were excluded.

Demographic details, clinical findings, examination, details of surgery and post-operative complications was noted.

For each patient, xray and USG abdomen and pelvis pre and postoperatively was documented in a semi structured pro forma.

Data was entered into an MS excel spreadsheet, and analysed using SPSS v26.1

## RESULTS

The average age of the study participants included was 40.01 years.

The sex distribution ratio of the study participants was 1.2:1, which is nearly equal in distribution.

The most common complaints in our study participants that were diagnosed with intestinal obstruction were abdominal distension (28.33%) followed by pain abdomen (26.67%).

Several intra-op findings are noted, of which the most common was found to be bands (26.67%), followed by adhesions (25%).

| Cause of obstruction | | percentage |
|---|---|---|
| **Bands- congenital** | | 26.67 |
| **Adhesions secondary to** | prior surgery | 20 |
| | endometriosis | 2 |
| | pelvis lymph node dissection | 1 |
| | dye reaction | 1 |
| | miscellaneous | 1 |
| **mass** | benign | 12 |
| | malignant | 10 |
| **stricture** | TB | 12 |
| | other | 11 |
| **others** | | 3.33 |

Figure 1:- Percentage distribution of complaints of the study participants

X-ray is useful in diagnosing the level of lesion in intestinal obstruction, based on the number of dilated loops, the dimensions and location of the dilated bowel loops. In our study, we found the most common site of obstruction to be small intestine, with jejunum being the most common site. (26.67%)

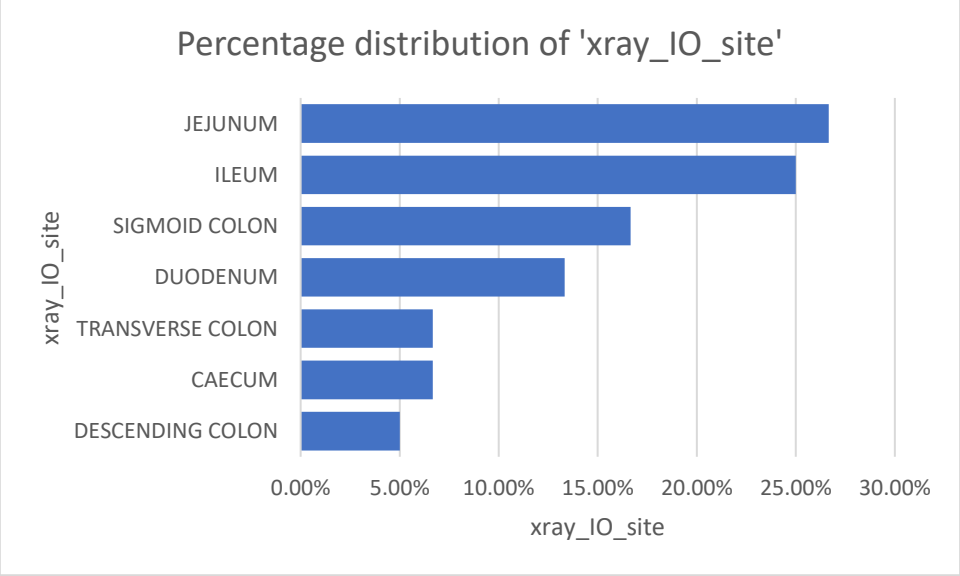


Figure 2:- the site of dilated bowel loops on the X-ray

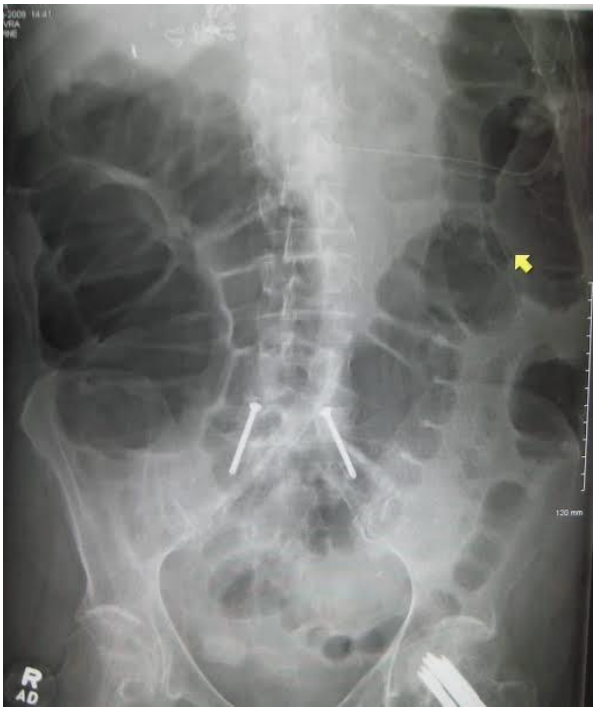

Figure 3:- obstructed bowel loops placed in the peripheral region, most likely large bowel in originAscitic fluid can be seen in cases of intestinal obstruction, with variable aetiological factors in place. In our study, we found that a little of 1/3$^{rd}$ of our patients had ascites (38.33%). Presence of a hernia, especially irreducible or strangulated, can be a good indicator on underlying intestinal obstruction. In our study, we found the incidence of hernia to be 28.33%.Most common associated co-morbidity in patients with intestinal obstruction is Type II diabetes mellitus. In our study, we found 36.67% patients to have Type II diabetes mellitus.

Smoking is an important, independent risk factor for intestinal obstruction. In our study, we found that 21/60 patients were smokers. The number of people consuming alcohol were 23/58.

**DISCUSSION**

Over the past few decades, the clinical pattern of acute intestinal obstruction (AIO) has evolved, remaining one of the most prevalent surgical emergencies worldwide. Contrary to industrialised nations, diverse tendencies in etiological patterns have been observed in emerging countries, namely the Indian subcontinent and certain African nations. Etiological framework Regional variations exist in the aetiology of intestinal blockage. In the West and specific regions of Asia, including China, post-surgical adhesions are frequently identified as a prevalent cause. Adhesions constituted the second most prevalent cause in our analysis, with a frequency above that reported by Souvik Adhikari et al.8, although falling short of the rates observed in Playforth et al. (54%) and Arshad Malik et al. (41%). This is largely due to the increased frequency of timely surgery for previously untreated conditions, such as procedures for various intra-abdominal and pelvic cancers. The present investigation revealed that open appendectomy, laparotomy, and hysterectomy were prevalent causes of adhesions, with incidences of 5%, 22%, and 14%, respectively. This resembled the findings of the research conducted by Adesunkanmi AR et al. and Foster NM et al. Consequently, bands are the principal cause of AIO at this institution; however, the incidence is lower than in similar studies, primarily due to the superior socioeconomic conditions and enhanced access to healthcare in this region, resulting in timely surgical hernia repair. Tuberculosis is predominantly attributed to the increasing prevalence of HIV and its co-infection with the disease, making it a significant contributor to AIO. Prevalence of Disease In this study, intraoperative complications occurred in 2.30% of all postoperative cases (including emergency and elective) and in 6.84% of all emergency procedures. In a study conducted by Souvik Adhikari et al., the incidence was 9.87%, however in a study by Bhargava et al., it was 3%. Typically, illnesses such as hernia and tuberculosis are more prevalent in men. In rural India, women predominantly serve as housewives, which restricts their exposure to

tubercle bacilli compared to men. Volvulus and malignant gastrointestinal diseases are more prevalent in males than in females. Clinical manifestation The clinical features, including pain, vomiting, abdominal distension, and constipation/obstipation, are not universally observed in all patients. The frequencies of clinical characteristics in the current investigation were comparable to those in the studies conducted by Souvik Adhikari et al. and Jahangir Sarwar Khan et al. The predominant indicator in this study was pronounced tympanic bowel sounds (83.82%), which aligned with the previously referenced investigations. In the current investigation, 83.82% of instances (i.e., from a total of 60 cases) of X-ray abdomen exhibited numerous air-fluid levels. In cases with ambiguous diagnosis, an intravenous contrast-enhanced CT scan can aid in identifying the transition zone and assessing the extent of intestinal obstruction; however, it was not employed in this investigation. Operative Intervention This analysis indicates that the surgical preferences for each aetiology of AIO align with the findings of Souvik Adhikari et al. and Jahangir Sarwar Khan et al.The most frequently performed operations in this study were reduction of blocked hernia with anatomical repair (26.47%) and laparotomy with resection-anastomosis (25.00%). Final Analysis Bands are the predominant cause of AIO, whereas adhesions, the second most common cause in this study, exhibit a notably high incidence, potentially due to enhanced early intervention for various intra-abdominal and pelvic cancers.

**References**

1. Hayanga AJ, Bass-Wilkins K, Bulkley GB: Current management of small-bowel obstruction. Adv Surg 2005;39:1-33.
2. Nobie B. Small bowel obstruction. http://emedicine.medscape.com/article/774140-overview. 3.
3. Soo Y Kim, Jon B Morris. Small bowel obstruction. 6th ed. Chapter 68. In: Shackel Ford's Surgery of the alimentary tract, Charles J Yeo, ed. Philadelphia: Saunders Elsevier, 2007, pp1025-33. 4.
4. Khaled Aly Matrawy, Mohamed El-Shazly. Intestinal obstruction: Role of multi-slice CT in emergency department. Alexandria Journal of medicine 2014;50:171178. 5.
5. Scott G. Houghton, Antonio Ramos De la Medina, Michael G. Sarr, Maingot's Abdominal Operation, 11thed.Mc Graw Hill, 2007, 479-508.
6. Jones RS. Intestinal obstruction. In: Sabiston DC, Jr. Editor. Text book of surgery– Biological basis of modern surgical practice 20th edn. W.B. Saunders Company, 2017, 1247-54.
7. Jeremy E. Springer, MSc, Jonathan G. Bailey, M.Sc, MD. Management and outcomes of small bowel obstruction in older adult patients: a prospective cohort study 8.
8. Souvik Adhikari, Mhd Zahid Hossein, Amitabha Das, Nilenjan Mitra, Udipta Ray. Etiology and outcome of acute intestinal obstruction: A review of 367 patients in Eastern India. The Saudi 2010;16(4):285-7. Journal of Gastroenterology
9. Jahangir Sarwar Khan, Junaid Alam, Hamid Hassan, Mohammed Iqbal. Pattern of intestinal obstruction a hospital based study. Pakistan Armed Forces Medical Journal 2007.
10. Playforth RH. Mechanical small bowel obstruction and plea for the earlier surgical intervention. Ann Surg 1970; 171:783-788.

11. Malik AM, Shah M, Pathan R, Sufi K. Pattern of acute intestinal obstruction: is there a change in the underlying etiology?. Saudi Journal of Gastroenterology. 2010 Oct 1;16(4):272-4.
12. Osuigwe AN, Anyanwu SN. Acute intestinal obstruction in Nnewi Nigeria: a five-year review. Nigerian Journal of Surgical Research. 2002;4(3):107-11.
13. Savage FJ, Lacombe DL, Hembry RM, Boulos PB. Effect of colonic obstruction on the distribution of matrix metalloproteinases during anastomotic healing. Journal of British Surgery. 1998 Jan;85(1):72-5.