



A CLINICAL STUDY OF ACUTE INTESTINAL OBSTRUCTION IN ADULTS IN S.S.M.C & H

Dr. Rajesh Singhai	Assistant Professor, Department of General Surgery, S S M C H, Jabalpur.
Dr. Chanda Rajak*	Professor & Head, Department of Physiology, S S M C H, Jabalpur. *Corresponding Author
Dr. Prateek Prabhaker Awasthi	Assistant Professor, Department of Physiology, S S M C H, Jabalpur.
Dr Khaleel Hussain D. C.	Asso. Professor, Department of Physiology, S S M C H, Jabalpur.

ABSTRACT Intestinal obstruction occurs due to the failure of passage of contents through intestine. It can be because of a mechanical or functional pathology and may vary from country to country. The aim of this study was to evaluate the etiology, presentation, management strategies, and outcomes of patients with acute mechanical Intestinal obstruction. This prospective study was conducted in Department of Surgery, at S.S.M.C & H Jabalpur ,M.P. in the month of march to August 2023. Total 150 patients of diagnosed acute intestinal obstruction were enrolled and was males preponderance (60%).and main affected age group was 41-50 years. The most common presenting symptom was an Abdominal pain and physical finding was abdominal distension and radiological finding was multiple air fluid levels seen on X-ray abdomen. The main cause of obstruction was Ileocaecal tuberculosis followed by Adhesions and Bands. The common surgical procedure was segmental bowel resection with end to end anastomosis. Mostly recovered without any complications, burst abdomen was the major cause of morbidity. **Summary** - Ileocaecal tuberculosis was the main causes of our study. An diagnostic approach based on different radio-logical imaging, blood investigations, biopsy and appropriate management with a rational combination of anti- tubercular therapy can reduce the morbidity of this easily curable yet potentially lethal disease.

KEYWORDS : Intestinal obstruction , Ileocaecal tuberculosis

INTRODUCTION

Acute intestinal obstruction persists to be most common surgical emergency, occurs due to the failure of passage of contents through intestine. Now days, acute mechanical intestinal obstruction is one of the main causes of surgical admissions in most emergency departments worldwide^[1]. Significant cause of morbidity and mortality, are associated with bowel gangrene or perforation^[2]. The etiology of intestinal obstruction may vary from country to country within a specific country^[3]. The aim of this study was to evaluate the etiology, presentation, management strategies, and outcomes of patients with acute mechanical intestinal obstruction at S.S.M.C & H, Jabalpur M.P. North India.

AIMS AND OBJECTIVES

- To study the incidence and different etiologies of Intestinal obstruction.
- To study the different modes of presentation and its management.
- To study the role of imaging studies to determining the site of obstruction and its etiology.
- To study the morbidity and mortality rates in acute intestinal obstruction.

MATERIALS AND METHODS

This prospective study was conducted in Surgery department, Sukh Sagar Medical College & Hospital, Jabalpur M.P. Total 150 patients were enrolled between March to August 2023 in our study who were based on clinical, biochemical, radiological, pathological features Final diagnosis was made at exploratory laparotomy the cause and site of obstruction and performed operative procedure were recorded. A biopsy was taken where required for histopathological confirmation. Post operative complications, outcome and mortality were observed. All observations were discussed and compared with recent literature and derived final conclusions.

Inclusion Criteria

- Patient's age group between 15 to 50 years.
- All patients presented to emergency department with features of intestinal obstruction and managed surgically.

Exclusion Criteria

- Patients who didn't give consent for participation.
- Patients who were managed conservatively without surgical intervention.

OBSERVATIONS AND RESULTS

Diagnosed acute intestinal obstruction were included total 150 patients in our study. Table 1 shows that out of the 150 patients, 60 were between 41 to 50 years (40%) and was most common age group. Table 2 shows that the incidence of intestinal obstruction was more in males (73.3%) as compare to females (26.6%). Table 3 shows that the most common clinical feature was abdominal pain followed by abdominal distension, constipation, Tenderness, increase bowel sound, guarding rigidity and vomiting. Table 4 shows that most common radiological feature was multiple air-fluid level followed by dilated bowel loops. Table 5 shows that out of the total 150 patients, 120 patients (80%) had an obstruction in the small intestine and 30 patients (20%) had an obstruction in the large intestine. Table 6 shows that in 66 patients (44%) , ileocecal tuberculosis was most common cause of obstruction and followed by adhesions and bands and stricture (26.6%), obstructed inguinal hernia (16.6%), post operative adhesions (13.3%), large bowel tumors (8%), small bowel tumors (8%), sigmoid volvulus (10%), incisional hernia (5.3%), umbilical/ paraumbilical hernia (3.33%), intussusceptions (8.66%) respectively. Table 7 shows that in 13 patients (65%) obstruction was due to closure of ilial perforation. Table 8 shows Segmental bowel resection and end to end Anastomosis was done in 24 patients (16%), Adhesiolysis in 32 patients (21.3%), Resection and Ostomy in 55 patients (20.91%), Hernia repair in 18 patients (12%), Strictureplasty in 8 patients (5.3%), Detorsion and decompression in 14 patients (9.3%), Enterotomy in 3 patients (2%) respectively. Table 9 shows that incidence of bowel ischemia, necrosis, and perforation was more in small bowel obstruction group. Table 10 shows that post operative stage was recovery in most of patients (90%). Morbidity occurred in 13 patients (8.6%) and mortality was reported in 02 patients (1.3%) during post operative period.

Table No. 01. Showing Age Wise Distribution. (total cases-150)

Age group	No of Patients	Percentage
15- 20	10	6.66%
21-30	30	20%
31-40	50	33.33%
41-50	60	40%

Table No. 02. Showing Sex Distribution. (total cases-150)

Sex	No of cases	percentage
Male	110	73.3%
Female	40	26.6%

Table No. 03. Showing Clinical Feature

Clinical feature	case	
Abdominal pain	100	66.6%
Abdominal distension	120	80%
constipation	100	66.6%
Vomiting	80	53.3%
Increased bowel sound	90	60%
Absent bowel sound	50	33.3%
Tenderness	110	73.3%
Visible peristalsis	70	46.6%
Guarding Rigidity	80	53.3%
Palpable Mass	35	23.3%

Table 4. Radiological Features (total cases-150)

Radiological feature	No of cases	%
Multiple air level	120	80%
Dilated bowel loop	25	16.6%
Coffee bean sign	05	3.3 %

Table 5. Showing Site Of Intestinal Obstruction

Site of obstruction	No of cases	Percentage %
Small intestine	120	80%
Large intestine	30	20%

Table 6. Etiology Of Intestinal Obstruction

Ileocecal tuberculosis	66 cases	44%
Primary Adhesions and Bands Strictures	40	26.6%
Obstructed inguinal hernia	25	16.6%
Post operative Adhesions	20	13.3%
Large bowel tumors	12	8%
Small bowel tumors	12	8%
Sigmoid Volvulus	15	10%
Incisional hernia	08	5.3%
Intussusception	13	8.66%
Umbilical/ Paraumbilical hernia	05	3.33%

Table 7. Types of post Operative adhesive bstruction

Previous operations	20 cases	
Closure of ileal perforation	13	65%
Appendectomy	05	25%
Salpingectomy	02	10%

Table 8 Types Of Operative Procedure Performed

Segmental bowel resection with end to end anastomosis	45	30%
Adhesionlysis	32	21.3%
Resection and ostomy	24	16%
Hernia repair	18	12%
Detorsion and decompression	14	9.3%
Strictureplasty	8	5.3%
Band release	6	4%
Enterotomy	3	2%

Table 9 Incidence Of Bowel Ischemia, Necrosis, And Perforation

Value	Small bowel obstruction group (120 cases)	Large bowel obstruction group (30 cases)
Ischemia	05 (4.1%)	04 (13.3%)
Necrosis	04 (2.66%)	02 (6.66%)
Perforation	03 (2%)	01 (3.33%)

Table 10 Outcomes

Outcome	No of Patients -150	
Uneventful recovery	135	90%
Morbidity	13	8.6%
Mortality	02	1.3%

DISCUSSION

The present study was carried out with an aim to study the age and sex distributions, various etiologies, clinical presentations, treatments given and outcomes of acute intestinal obstruction. Intestinal obstruction remains one of the most common surgical diagnosis made in emergency departments worldwide^[1], management of which requires quick, appropriate diagnosis, rational and effective therapy^[4].

In our study most common age group was between 41 and 50 years (40%) with male predominance (73.3%). It is consistent with the study conducted by Souvik *et al*^[3] and Deshmukh *et al*^[5]. Regarding clinical presentation of our patients, abdominal pain was the most common

presenting symptom and abdominal distension was the most common physical finding on clinical examination. Additionally absence of passage of flatus and or stool, vomiting, nausea were frequent symptoms on arrival. Our results are comparable to study conducted by Souvik *et al*^[3] and Khan *et al*^[6].

The most common radiological finding was multiple air fluid levels followed by dilated bowel loops. The observations are comparable to a study conducted by Malik *et al*.^[1] Small bowel obstruction was present in 80% patients and large bowel obstruction in 20% patients in our study. A study conducted by Markogiannakis *et al*.^[7] The most common underlying cause of obstruction in our study was found to be ileocecal tuberculosis. This is contrary to the results of other study, where obstructed inguinal hernia was the commonest cause of acute intestinal obstruction^[5,8] followed by Adhesions and Bands^[1,7]. Intestinal obstruction resulting from tuberculosis has been reported to be more prevalent in patients with low socio- economic status^[9]. This observation is consistent with our study where most of patients had either primary or no formal education and more than seventy five percent of them were unemployed. The majority of patients in the present study came from the rural areas located a considerable distance from the study area. Similar observations were reported by other studies also^[9-11]. This observation has an implication on accessibility to health care facilities and awareness of the disease as delayed presentation increases morbidity and mortality many folds.

The most common surgical procedure was segmental bowel resection with end to end anastomosis, next was adhesionlysis, resection and ostomy respectively. Most of the cases recovered without any complications (90%). Infection propagating to wound dehiscence, burst abdomen was the major cause of morbidity and was seen in 8.6% cases. 1.3% mortality rate was reported in our study during post operative period and commonly seen in patients with strangulated hernia and increased age. In 1.3% cases death occurred due to acute respiratory distress syndrome. This observation is comparable to a similar study conducted by Adhikari *et al*^[3], Ohene *et al*^[12].

SUMMARY AND CONCLUSIONS

As a summary, in our scenario, Ileocecal tuberculosis remains to be the most common cause followed by adhesions and bands. Patients can be diagnosed on time based on a high index of suspicious in areas where tuberculosis is common. An algorithmic diagnostic approach based on different radiological imaging, blood investigations, endoscopy, biopsy and treatment with a rational combination of anti-tubercular therapy can reduce the morbidity of this easily curable yet potentially lethal disease. Poverty and illiteracy are the additional factors to this problem. Early diagnosis and timely intervention may decrease morbidity and mortality of these patients.

To conclude, acute intestinal obstruction remains an important surgical emergency with significant morbidity as well as mortality. Great caution should be taken while treating patients with acute mechanical bowel obstruction since the incidence of bowel ischemia, necrosis and perforation is significantly high. Clinical findings combined with radiological findings can diagnose intestinal obstruction substantially though a proportion of these patients can be managed conservatively; immediate operative intervention was required in substantial proportion. Success in the management of acute intestinal obstruction depends mainly upon prompt diagnosis, adequate resuscitation and skilful management.

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