



MODES OF INTESTINAL OBSTRUCTION IN ADULTS AT MEDICAL COLLEGE HOSPITAL

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ABSTRACT

Background: Mechanical intestinal obstruction is a common surgical emergency. The causes of intestinal obstruction include hernias, postoperative adhesions, malignancy, strictures etc. The etiology of this condition varies in different parts of the world and within same country. Aim of this study was to determine the etiology of intestinal obstruction, evaluate the factors affecting morbidity and mortality in our region. **Methods:** This prospective descriptive study was conducted in department of surgery at a tertiary care teaching hospital at Cuddalore, Tamilnadu, India from April 2022 to September 2022. All the adult patients, irrespective of sex with diagnosis of dynamic intestinal obstruction undergoing exploratory laparotomy were included in the study. Laparotomy findings were recorded and in the postoperative period patients were followed up for detection of complications and treatment. **Results:** 50 patients were treated for mechanical intestinal obstruction. Mean age was 50.5 years and male to female ratio was 1.8:1. External hernia (53%) was the commonest cause of intestinal obstruction followed by postoperative adhesion (39%). Wound infection was the commonest postoperative complication. **Conclusions:** External hernia is the leading causes of mechanical intestinal obstruction in our region. Old age, delayed presentation, associated co-morbidities, increases the morbidity and mortality in these patients.

KEYWORDS : Dynamic intestinal obstruction, Adults, External hernias.

INTRODUCTION

Acute mechanical bowel obstruction is a common surgical emergency and a major cause of admission of patients to emergency surgical department. It constitutes a major cause of morbidity and financial expenditure in hospitals. Intestinal obstruction belongs to highly severe conditions requiring a quick and correct diagnosis as well as immediate, rational and effective therapy.

Regional as well as worldwide variations in the pattern of intestinal obstruction and changes in the disease pattern from time to time are well documented in the literature. Periodic studies are needed to evaluate the etiological factors as well as changing pattern of disease and also to analyse the effect of treatment.

Present study was undertaken to determine the etiology, to evaluate the factors affecting morbidity and mortality, postoperative complications in patients with intestinal obstruction in our region.

MATERIAL AND METHODS

The prospective descriptive study was carried out in department of surgery at a tertiary care teaching hospital at Cuddalore, Tamilnadu, India. Ours is a rural tertiary care centre surrounded by many villages. Present study was carried out for a period of 6 months (April 2022 to September 2022) on 50 patients.

Inclusion criteria

Adult patients (Age 18 years and above), regardless of gender, presented with dynamic intestinal obstruction (small as well as large) and undergone exploratory laparotomy, were included.

Exclusion criteria

- Patients below 18 years of age.
- Patients with adynamic intestinal obstruction and those responded to conservative measures were excluded.

On admission detailed history & thorough clinical examination was performed as per prefixed proforma. The data regarding age, sex, residence, socioeconomic status, duration of symptoms, associated diseases were documented after direct interview with patient or patient's attendants. The diagnosis of intestinal obstruction was made on the basis of detailed history, clinical findings, plain abdominal radiograph, and ultra sound examination. Laboratory investigations like complete blood count, blood sugar, serum creatinine, serum electrolytes, HIV and Hepatitis B status and urine analysis were carried out. All patients with adhesive intestinal obstruction were initially given a trial of conservative treatment for 48 hours. If there was no spontaneous resolution of obstruction, exploratory laparotomy was done. Conservative treatment also discontinued if there was progression of signs and symptoms after initial resuscitation. Exploratory laparotomy was performed after taking due informed written consent of the patient & relatives. Operative details like cause of obstruction, site of obstruction and operative procedure performed were recorded. Whenever required specimen was sent for histopathological examination for definitive diagnosis. Postoperatively patients were followed up for first 6 months for detection of early as well as late complications. The data collected were entered into MS- Excel sheets and analysis was carried out using statistical package for social sciences (SPSS-version 16).

RESULTS

During the study period, 50 patients were admitted in surgical ward with the diagnosis of intestinal obstruction and underwent exploratory laparotomy.

The most vulnerable age group in this study was 51 to 60 years (22%). The next most common age group affected was 61 to 70 years (18%).

Out of 50 cases studied, 32 were male and 18 were females. Thus males outnumbered the females.

The most common symptom in our study was abdominal pain, present in all 50 cases (100%) followed by distension in 47 cases (94.00%), vomiting 45 cases (90.00%) and least being constipation in 37 cases (74.00%).

Out of 50 patients, 42 patients (88%) presented with small bowel and 8 patients (12%) with large bowel obstruction. Thus small bowel obstruction was more common than large bowel obstruction.

In our study, 15 cases (30%) presented within 48 hours after onset of symptoms. 28 patients (56%) presented within 3 to 4 days and 7 patients (14%) presented on 5th & 6th day. Out of 50 patients, 5 patients succumbed to death in post-operative period. The overall mortality rate in our study was 10%.

External hernia (50%) was the commonest cause of intestinal obstruction followed by adhesions (30%) in our study. Majority of patients 33 (66%) in our study were from rural area. Majority of patients (84%) in our study were from poor socioeconomic class. Wound infection (12%) was the commonest complication noted in this study followed by wound dehiscence (6%) and septicaemia (6%).

DISCUSSION

- Acute intestinal obstruction is one of the common life threatening emergencies all over the world. No age is immune for intestinal obstruction. Most commonly affected age group in our study was 51 to 60 years (22% cases). According to my study, the most commonly affected age group was 41-55 years. The mean age of the patient in this study was 50.8 years.
- Male to female ratio in this study was 1.8:1. Similar observations (male predominance) were reported by other studies. Male predominance in this study may be because a large number of our patients had obstructed or strangulated inguinal hernia, and in our country males as compared to females suffer more from the inguinal hernias. Incidence of small bowel obstruction (88%) was more than large bowel obstruction (12%) in our study. Similar observations are reported by various other studies.
- While in the study conducted by Ullah S et al¹⁴ the incidence of large bowel obstruction was more than small bowel obstruction. Abdominal pain (100%) and distension (94%) are the predominant symptoms of presentation in our study. These findings are almost consistent with the other studies. Majority of patients (56%) presented late to hospital i.e. 48 hours after the onset of symptoms. This may be because in our study out of 50 patients 33 (66%) were from rural area.
- 42 patients (84%) were from low socioeconomic status. Poverty, illiteracy, and poor transportation facilities might be the contributing factors for this. Socio-economic status of the patient in this study was determined by Modified BG Prasad socioeconomic classification. The advantage of this classification is that it is applicable to both rural and urban area. It utilizes per capita monthly income of individual late presentation of patient to the hospital was also reported by the authors from other developing countries.^{19,20}
- External hernia (50%) was the commonest cause of intestinal obstruction in our study followed by adhesions (30%). Similar findings are also reported by various national and international studies. Wound infection was the commonest post-operative complication noted in our study. Similar observation was also reported by other studies. The overall mortality rate in our study is 12%.

our region. We feel increasing awareness among the people, especially in rural areas, about the complications of hernia and insisting them for early repair may reduce the incidence of intestinal obstruction. Old age, delayed presentation to hospital, associated co-morbid conditions increases the morbidity and mortality in these patients. Poverty and illiteracy among the people adds to this problem. Early diagnosis and timely surgical intervention may decrease morbidity and mortality of this condition.

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CONCLUSION

External hernia is the leading cause of intestinal obstruction in