



PATTERN OF INTESTINAL OBSTRUCTION AND OUTCOME AT TERTIARY CARE CENTRE IN ODISHA: A CROSS SECTIONAL STUDY

General Surgery

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ABSTRACT

Introduction: intestinal obstruction is obstruction to normal flow of intestinal contents, may be Dynamic or Adynamic.

Aim: The aim of this study was to identify the etiology, management and outcomes of patients with acute mechanical IO presenting in western Odisha.

Patients and Methods: It is a prospective descriptive study conducted at a teaching hospital during the period from January 2019 to December 2020. All patients with clinical or radiological evidence of acute intestinal obstruction were included in this study regardless of the gender of the patient. Patients below the age of 12 years were excluded from the study. The treatment strategy was planned ranging from conservative treatment to emergency laparotomy after resuscitation and rehydration of the patient. Details of individual patients were recorded on a pro forma sheet and data analyzed statistically on SPSS version 17.

Results: A total of 74 patients with acute intestinal obstruction were admitted and treated. The mean age of the study population was 43.08 ± 13.07 years. Postoperative adhesions accounted for 41% of the total cases, followed by abdominal tuberculosis 25%, obstructed/strangulated hernias of different types 18%. There was an obvious change in the pattern of etiology of acute intestinal obstruction as the common causes were postoperative adhesions and abdominal tuberculosis instead of obstructed inguinal hernias.

Conclusion: An increase in the adhesive obstruction and a concomitant decrease in the incidence of obstructed hernias indicate a changing trend towards early operation before it gets complicated. Abdominal tuberculosis is emerging as another common cause of acute bowel obstruction.

KEYWORDS

Pattern, Aetiology, Intestinal Obstruction

INTRODUCTION

Acute intestinal obstruction is one of the most common surgical emergencies. One of the most common intra-abdominal problems faced by general surgeons in their practice remains bowel obstruction.¹⁴ The prevalence of intestinal obstruction was 21.8 % and 4.8% among patients admitted for acute abdomen surgery and total surgical admissions, respectively.¹⁶ With its multiple etiologies, intestinal obstruction of either the small or large bowel continues to be a major cause of morbidity and mortality.³

Small bowel obstruction is a major cause of morbidity and financial expenditure around the world. Common causes of intestinal obstruction are obstructed hernias, post operative or tuberculous adhesions, tumors, foreign bodies, inflammatory bowel disease, fecal impaction and volvulus.

Large bowel obstruction (LBO) is most often the result of volvulus, colorectal malignancies and the lesions usually arise in the sigmoid or recto-sigmoid area.¹¹

AIMS AND OBJECTIVES

The objective of the study was to decide the various etiological factors of intestinal obstruction. The mode of presentation of intestinal obstruction depending on etiology and various factors which decide the outcome of the patient.

MATERIALS AND METHODS

A prospective study of 74 patients, presenting with acute intestinal obstruction over a period of 2 years from 2018-2020 at VSSIMSAR Hospital, Burla Sambalpur (dist) was undertaken. All cases of intestinal obstruction treated by surgery in the two years were (2018-2020) included in the study.

INCLUSION CRITERIA

Patients admitted in Surgery department with symptoms and signs of acute intestinal obstruction.

Patients giving consent for the study.

EXCLUSION CRITERIA

1) Patients who died in casualty before diagnostic workup was complete.

- 2) Pregnant females.
- 3) Patients below the age of 12 years
- 4) Those with incarcerated and irreducible hernia and paralytic ileus will be excluded from the study.
- 5) Patients with severe pre-existing co-morbidities: cardiovascular, respiratory and hematological disorders.

For the purpose of study particulars of the patient with regard to age, sex, clinical features, operative details and postoperative outcome were noted down. From these data critical evaluation⁵ was made regarding points in diagnosis, choice of operative procedure and prognostic indices. Clinical examination, X-ray findings and lab investigations were emphasized with regarding to diagnosis and prognosis.

RESULTS

The study comprises of 74 cases of intestinal obstruction admitted during the period of study to the surgery department of VSSIMSAR, Burla, Odisha.

The total number of cases of Intestinal obstruction studied were 74 out of which 50 were males and 24 were females, male to female ratio to be 2.08:1

Table - 1 Age Incidence Of Intestinal Obstruction

Age group	No. of Male	No. of Female	Total	Percentage
15-20 Years	2	-	2	2
21-30 Years	11	5	16	21.6
31-40 Years	7	6	13	17.54
41-50 Years	13	6	19	25.6
51-60 Years	11	3	14	18.9
61-70 Years	2	4	6	8.1
71-80 Years	4	-	4	5.4
Total	50	24	74	100

41 to 50 Years of age was found to be more vulnerable (25.6%) for small gut obstruction and 21 to 30 years group was second in order (21.6%). But in old age incidence was very low (2.16%) and also in 15-20 yrs of age group it was only 2%. In 5th decade of life the occurrence was nearly 20%. Large bowel obstruction is most commonly observed in 6th to 8th decades.

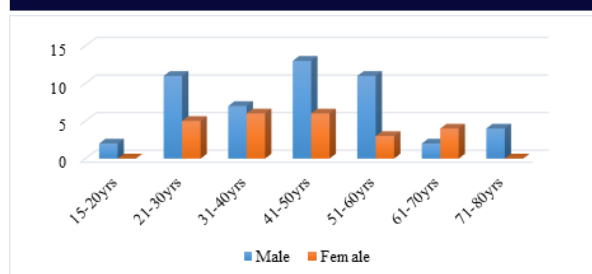


Chart 1: Age specific incidence of intestinal obstruction

Table - 2 Sex Specific Incidence Of Intestinal Obstruction

	SBO	LBO	Total
Male	32	18	50
Female	17	7	24

Males outnumbered females in both forms of Intestinal obstruction, male to female ratio 2.04:1.

Table - 3 Cause Specific Incidence Of Intestinal Obstruction

Disease	No. of cases	Percentage
Small Bowel Obstruction		
Bands and adhesions	24	48.9
Obstructed Hernia	10	20.4
Tuberculosis	5	10.2
Intussusception	4	8.1
Malignancy	2	4.1
Inflammation	2	4.1
Unknown	2	4.1
Total	49	100
Large Bowel Obstruction		
Sigmoid Volvulus	15	60
Malignancy	4	16
Intussusception	2	8
Adhesions	3	12
Unknown	1	4
Total	25	100

Bands and adhesions as a cause of small intestinal obstruction was found to be the most common cause in our study followed by hernia, but others like intussusception, malignancy are found in few cases. Volvulus of sigmoid colon was the most common cause for large bowel obstruction followed by malignancy. Other unknown causes are managed conservatively with positive result.

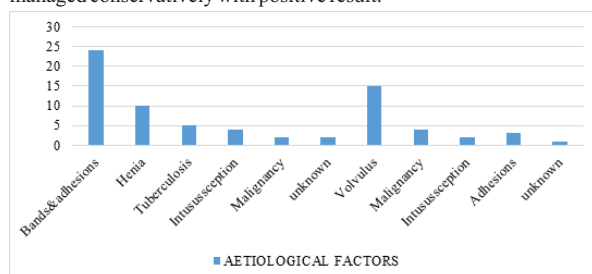


Chart 2: Aetiological factors

Table - 4 Presenting Symptoms In Intestinal Obstruction

Disease	Pain	Distention	Constipation	Vomiting
Small Bowel				
Bands & adhesions	18	20	20	17
Obs Hernia	8	9	9	6
Tuberculosis	4	3	4	3
Intussusception	3	2	2	1
Malignancy	-	0	2	1
Inflammation	2	1	1	-
Unknown	1	0	1	0
Percentage (%)	73.4	71.4	79.5	57.1
Large Bowel				
Sigmoid Volvulus	12	13	14	6
Malignancy	2	3	4	2
Bands	2	1	1	2

Others	0	0	0	0
Percentage (%)	64	68	76	40

Pain abdomen, vomiting, distention and constipation were the common clinical feature found in our study. Constipation constitute main symptom of this study followed by pain abdomen. Vomiting is found more in small bowel obstruction when compared to large bowel obstruction.

Distention is more pronounced in large bowel obstruction than small bowel obstruction and constipation is also more in large bowel obstruction.

Ballooning of rectum was a significant finding in sigmoid volvulus. In 4 cases of sigmoid volvulus with gangrenous bowel, blood and mucus was found on finger stall. But this finding with more blood was found in maximum number cases of malignancy. Red current Jelly was found in single case of intussusception.

Table - 5 Cause Wise Adopted Procedure

Disease	Operation	No .of cases	No .of deaths	Mortality rate
SMALL BOWEL:				
Bands & adhesions	Adhesiolysis	24	0	Nil
Hernia	Reduction and herniorrhaphy	6	0	Nil
	Resection and anastomosis	4	1	25%
Tuberculosis	Ileo-transverse anastomosis	1	0	Nil
	Stricturoplasty	4	0	Nil
Intussusception	Resection and anastomosis	4	0	Nil
Malignancy	Resection and anastomosis	2	1	50
	Conservative	3	0	Nil
LARGE BOWEL:				
Sigmoid volvulus	Resection and anastomosis	10	1	10
	Hartmans	5	3	60
Malignancy	Resection and anastomosis	4	2	50
Others	Conservative and surgery	1	0	Nil

In small bowel obstruction conservative treatment is tried and on failure surgical treatment was done. Mostly resection and anastomosis of affected part is done, with ileostomies in some patients. Adhesiolysis in case of bands and adhesions done. In large bowel obstruction resection and anastomosis and Hartmanns are commonly done procedures, total mortality rate is 9.6% in this study.

In our study wound infection was most common complication in 25 cases followed by respiratory complications in 22 cases, most of these complications were noticed in large bowel obstruction, may be attributed to more contamination relatively. Burst abdomen encountered in total 8 cases, 4 leading to mortality further there. Minor complications like diarrhea noticed in 10 cases only which was treated conservatively.

CONCLUSION

Adhesions constitute the most frequent causes of obstruction. This finding was also noticed in our study. Several studies postulate that adhesions are responsible for of bowel obstruction and are leading cause of it. The vast majority of the patients with adhesive obstruction have undergone previous abdominal operations. In the present study, this was observed in all such patients. The increasing role of adhesions as a cause of acute intestinal obstruction demands greater need for routine preventive measures against adhesion formation.

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