



## STUDY OF INTESTINAL OBSTRUCTION WITH CLINICAL EVALUATION

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Conflicts of Interest: Nil

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### Abstract:

**Introduction:** Intestinal obstruction is acute problem presenting in a common surgical emergency and a frequently encountered in abdominal surgery. Intestinal obstruction is a common surgical emergency problem worldwide. Intra-abdominal problems are one of the most common as Intestinal Obstruction by general surgeons in their practice. Intestinal obstruction is defined as obstruction in forward propulsion of contents of the intestine either due to active or inactive or pseudo-obstruction. It is predisposed by varying underlying abnormality diseases that are difficult to define pre-operatively. About 12% to 16% of acute abdominal emergencies may be contributed to intestinal obstruction. With multiple etiologies for intestinal obstruction of either the small or large bowel which become to be a major cause of morbidity and mortality. For intestinal obstruction there are various mode of presentation underlying various cause in each age group. In ancients period mortality and morbidity was very high. Most of the mortality occurs in elderly age with late treatment and who are having associated pre-existing diseases like, diabetes mellitus, COPD and cardiac diseases.

**Aim:** The main aim of this study is to study the Intestinal obstruction with different modes of presentations.

**Material and methods:** In this study total 70 patients were included having intestinal obstruction with various problems. A clinical study of intestinal obstruction were selected has to come across this surgical emergency and treatment and skillful management in surgery department of our hospital. From all the patients complete clinical history was collected and also physical examinations were done. All patients' data with the operative and discharge record were correlated with the case notes wherever necessary. Patients who had hernia with recent onset of irreducibility, pain, vomiting and constipation were included in this study. Surgery stabilization of patients with shock, correction of electrolyte imbalance and nasogastric decompression was done with prior. Appropriate surgical procedure was carried out.

**Result:** The study was done in all age groups with a mean age of 35 years. Maximum presenting symptoms was abdomen pain (67.1%) followed by vomiting (51.4%), Tenderness (61.4%), distension of abdomen (40%) and constipation (37.1%), most of patients with overlapping of symptoms. Etiology of intestinal obstruction shows 58 cases (82.9%) as shown in Table below. Adhesions is consider for majority of obstruction followed by Obstructed hernias (21.4%), Small bowel volvulus (11.4%) and Bands (8.6%).

**Conclusion:** Intestinal obstruction is more common in males compared to females. Intestinal obstruction differs in different levels with mode of presentation. Adhesions accounted for majority of intestinal obstruction. Intestinal obstruction was found more common in children than other age groups. Malignancies are also common causes of intestinal obstruction. The clinical examination stressed upon vital signs and abdominal examination and Routine necessary investigations were carried out. Hence early recognition and timely intervention is important to prevent the intestinal obstruction.

**Keywords:** Intestinal obstruction, adhesions, hernia, intraperitoneal malignancy.

### Introduction

Intestinal obstruction is acute problem presenting in a common surgical emergency and a frequently encountered in abdominal surgery<sup>i,ii</sup>. Intestinal obstruction is a common surgical emergency problem worldwide. Intra-abdominal problems are one of the most common as Intestinal Obstruction by general surgeons in their practice. Intestinal obstruction is defined as obstruction in forward propulsion of contents of the intestine either due to active or inactive or pseudo-obstruction. It is predisposed by varying underlying abnormality diseases that are

difficult to define pre-operatively. About 12% to 16% of acute abdominal emergencies may be contributed to intestinal obstruction. With multiple etiologies for intestinal obstruction of either the small or large bowel which become to be a major cause of morbidity and mortality<sup>iii</sup>. The etiology of Intestinal obstruction varied with small intestinal obstruction which is caused by adhesions in 60%, strangulated hernia in 20%, malignancy in 5% and volvulus in 5%<sup>iv</sup>. The diagnosis of preoperative intestinal strangulation cannot be made or excluded reliably by any known parameter, combinations of parameters, or by experienced clinical judgement<sup>v,vi</sup>. For intestinal

obstruction there are various mode of presentation underlying various cause in each age group. In ancients period mortality and morbidity was very high. Nowadays due to improvement and understanding of pathophysiology, electrolyte imbalance and high degree of refinement in correction of fluid, diagnosis techniques of radiology, introduction of techniques in gastrointestinal decompression, introduction of antibiotics to effective bacteriological control, introduction of new surgical principles and primary anastomosis has replaced staged procedures and number of days stay in hospital with caring and with Improvement in field of anesthesia has all contributed to decreasing the morbidity and mortality. About 5 to 15% of cases of severe abdominal pain were due to Mechanical obstruction acquiring sudden onset requiring admission to hospital<sup>vii, viii</sup>. In 1994 Charles V. Mann research showed classical clinical advice that ‘sun should not both rise and set’ on a case of unrelieved intestinal obstruction, unless for delay there are positive reasons<sup>ix</sup>. Factor that making difference of any operative procedure in outcome in relation to morbidity and mortality. Patient with acute intestinal obstruction depends largely upon early diagnosis which is useful for success in treatment. Most of the mortality occurs in elderly age with late treatment and who are having associated pre-existing diseases like, diabetes mellitus, COPD and cardiac diseases. However intestinal obstruction is most often the result of colorectal malignancies and lesions usually arise in the sigmoid or recto sigmoid area<sup>x</sup>. The direction of rise in intestinal obstruction has made early surgical intervention<sup>xi</sup>. The main aim of this study is to study the Intestinal obstruction with different modes of presentations.

**Material and methods:**

In this study total 70 patients were included having intestinal obstruction with various problems. Patients attending to hospital as in patient department (IPD) and outpatient department (OPD) of our hospital were included with intestinal obstruction. A clinical study of intestinal obstruction were selected has to come across this surgical emergency and treatment and skillful management in surgery department of our hospital. The patients with age group 0-80 years were included in this study. From all the patients complete clinical history was collected and also physical examinations were done. All patients’ data with the operative and discharge record were correlated with the case notes wherever necessary.

Patients who had hernia with recent onset of irreducibility, pain, vomiting and constipation were included in this study. Surgery stabilization of patients with shock, correction of electrolyte imbalance and nasogastric decompression was done with prior. Appropriate surgical procedure was carried out.

**Result:**

Total 70 cases of intestinal obstruction were studied during studied period. The study was done in all age groups with a mean age of 35 years as shown in table no 1 below. Occurrence of intestinal obstruction was common in male (71%) as compare to female (29%).

**Table 1:** Age group distribution with cases:

Age group( years)	Total no of cases
0-10	18
11-20	7
21-30	10
31-40	8
41-50	12
51-60	4
61-70	6
71-80	5
<b>Total</b>	<b>70</b>

In this study maximum presenting symptoms was abdomen pain (67.1%) followed by vomiting (51.4%), Tenderness (61.4%), distension of abdomen (40%) and constipation (37.1%), most of patients with overlapping of symptoms as shown in table below.

**Table 2:** Analysis of symptoms and signs

Symptoms and signs	No. of cases	Percentage
Pain abdomen	47	67.1
Vomiting	36	51.4
Abdominal distention	28	40.0
Tenderness	43	61.4
Constipation	26	37.1
Increased bowel sounds	18	25.7
Absent bowel sounds	8	11.4
Decreased bowel sounds	10	14.3
Groin swelling	9	12.9
Visible peristalsis	8	11.4
Guarding	20	28.6
Rigidity	2	2.9
Significant PR findings	1	1.4

Etiology of intestinal obstruction shows 58 cases (82.9%) as shown in Table below. Adhesions is consider for majority of obstruction followed by Obstructed hernias (21.4%), Small bowel volvulus (11.4%) and Bands (8.6%) and so no. Malignancies were common cause of large bowel obstruction. Resection anastomosis (13 cases) and adhesiolysis (12 cases) was carried out.

**Table 3:** Etiologies in obstruction.

<b>Etiology of intestinal obstruction</b>		
Adhesions	15	21.4
Obstructed hernias	10	14.3
Bands	6	8.6
Small bowel volvulus	8	11.4
TB stricture	4	5.7
Intussusception	3	4.3
Meckel's diverticulum	1	1.4
Meconium ileus	1	1.4
<b>Etiology of large bowel obstruction</b>		
Neoplasms	6	8.6
Volvulus	4	5.7
Intussusception	3	4.3
<b>Causes of strangulation</b>		
Hernias	5	7.1
Volvulus	9	12.9
Adhesions	3	4.3
Others	6	8.6

**Discussion:**

Intestinal obstruction is continues to be frequent emergency which surgeons have to face. Intestinal obstruction is one of the commonly encountered clinical problems. The mortality has reduced significantly by instituting the treatment at the earliest period nowadays. In this study Intestinal obstruction although occurs in all age groups. This study showed highest incidence in the age group 30 - 40 years and which is comparable with the studies carried out by Adhikari S et al<sup>xii</sup> and Cole GJ et al<sup>xiii</sup>. According to Brewer et al in 1976 analyzed 1000 consecutive abdominal surgeries and reported an incidence of 2.5%<sup>xiv</sup>. As studied done by Gilroy P et al<sup>xv</sup> in 1975, 3.2% reported an incidence. About 3.2 million cases of intestinal obstruction occurred in 2015 which resulted in 264,000 deaths<sup>xvi, xvii</sup>. According to the study conducted by Gill et al<sup>xviii</sup> have reported 19.04% of cases in age group of 0-10 years which shows little bit more than this study. The common clinical features of intestinal obstruction are

abdominal pain, vomiting, constipation and abdominal distension. Abdominal lump, bleeding per rectum etc are other rare features which were comparable with the other study like Jahangir Sarwar Khan<sup>xix</sup>. In the study Duron JJ et al<sup>xx</sup> found that adhesions contributed for intestinal obstruction upto 25.5% and Ti et al<sup>xxi</sup> reported that postoperative adhesions and bands contributed upto 23.8% which is almost similar to this study. Fuzan et al<sup>xxii</sup> study found that 42.2% patients the cause for intestinal obstruction was adhesions due to previous operations. In this study In this study maximum presenting symptoms was abdomen pain (67.1%) followed by vomiting (51.4%), Tenderness (61.4%), distension of abdomen (40%) and constipation (37.1%) which is least to study of Asbun et al that shows in retrospective analysis of 105 cases of small bowel obstruction found that incidence of pain abdomen 82%, vomiting 88%, were commoner than constipation (28%) and distention of abdomen (56%)<sup>xxiii</sup>.

**Conclusion:**

Intestinal obstruction is more common in males compared to females. Intestinal obstruction differs in different levels with mode of presentation. Adhesions accounted for majority of intestinal obstruction. Intestinal obstruction was found more common in children than other age groups. Malignancies are also common causes of intestinal obstruction. The clinical examination stressed upon vital signs and abdominal examination and Routine necessary investigations were carried out. Hence early recognition and timely intervention is important to prevent the intestinal obstruction.

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