

EVALUATION OF CLINICAL PROFILE OF ACUTE INTESTINAL OBSTRUCTION

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ABSTRACT

Background: Acute intestinal obstruction characterized by interruption in the forward motility of the intestinal contents. This interference can occur at any location or portion along the whole length of the intestinal tract. The clinical symptoms are varying and depends upon the level of obstruction. The most common etiology behind intestinal obstruction are namely intra-abdominal adhesions, intestinal herniation and malignancy. **Material & Methods:** The present cross-sectional prospective study enrolled 100 patients of acute intestinal obstruction, along with patients who had hernia with irreducibility and history of pain, vomiting and constipation of both the genders were enrolled for the study. Written informed consent was taken from each study participant. Clearance from Institutional Ethics Committee was taken before start of study. **Results:** In present study, most common type of obstruction was due to adhesions result from previous surgeries (30%) which was followed by obstructed/strangulated external hernia present in 18% of the patients. Bands and volvulus were present in 13% and 10% patients. TB stricture of ileum were found in 8% cases followed by hirschprung's and intussusception among 6% cases respectively. Malignancy of the large bowel was seen in 3% patients. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of carcinoid tumour. **Conclusion:** We concluded from the present study that the management of acute intestinal obstruction depends accuracy of diagnosis and treating the underlying pathology of the obstruction along with the main cause itself.

Key words: Intestinal obstruction, Postoperative adhesions, Obstructed/strangulated hernia.

INTRODUCTION

Acute intestinal obstruction characterized by interruption in the forward motility of the intestinal contents. This interference can occur at any location or portion along the whole length of the intestinal tract. The clinical symptoms are varying and depends upon the level of obstruction. The most common etiology behind intestinal obstruction are namely intra-abdominal adhesions, intestinal herniation and malignancy (1). The clinical presentation of acute intestinal obstruction includes nausea, vomiting, colicky abdominal pain, failure to pass flatus and absent bowel movements. This failure in propagation

of intestinal motility in acute intestinal obstruction mainly seen due to underlying mechanical and functional pathology. Acute mechanical Intestinal obstruction reported as the leading causes of hospital admissions in cases of surgical emergency worldwide(2).

Acute intestinal obstruction is reported as the most common surgical emergencies among all the ages worldwide. Mode of clinical presentation is reported same among all cases but underlying etiology varies among every age group (3). Previous studies reported

that in earlier century mortality rates and morbidity rates were very high. Now with advancement in pathophysiology and new radiological techniques improves the diagnosis and treatment. The newer techniques of gastro-intestinal decompression, refinement in fluid and electrolyte imbalance correction, broad spectrum antibiotics and surgical principles including primary anastomosis has reduced the hospital stay and better outcome with lower mortality rates and morbidity rates (4). Mechanical obstruction is responsible for 5 to 15% of cases out of total acute abdominal pain requiring hospital admission (5).

The characteristic physical examination reported abdominal distension, high-pitched bowel sounds, tympanic sounds on percussion. Radiological investigations help in establishing the confirmatory diagnosis. The non-contrast computed tomography is highly specific investigation for confirming the diagnosis despite of suspicion persists after negative radiography (6). Management of acute intestinal obstruction includes fluid and electrolyte resuscitation, bowel rest and intestinal decompression. Surgical intervention required in cases of vascular compromise or perforation and inadequate bowel decompression. In developing countries, the causes of acute intestinal obstruction are changing in etiology because of better health care infrastructure and facilities and increasing rate of early surgical intervention (7).

MATERIALS & METHODS

The present cross-sectional prospective study was conducted at department of surgery of our tertiary care hospital. The study duration was of one year from July 2017 to June 2018. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Patients of acute intestinal obstruction, along with patients who had hernia with irreducibility and history of pain, vomiting and constipation of both the genders were enrolled for the study. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant. Patients who had subacute intestinal obstruction and paralytic ileus were excluded from the study.

Detailed clinical history with general physical examination was done and recorded in the proforma prepared for this study. Pathological and biochemical investigations were done along with X-ray erect abdomen on all patients. USG and CT abdomen was done in few patients whom X-ray findings were inconclusive. Appropriate surgical procedure was scheduled and after that each patient was followed up for period ranged from 2-6 month. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

In present study, out of 100 patients, most common age group involved in this study was 31–40 years (22%). The average age of the study participants was 46.82 years. Next most common age group involved in this study was 51–60 years (21%). Among our study participants, males were more affected compared to females. Majority of the females were in the 51-60 years of age group. The ratio of males to female in the present study was 1.62:1. (Table 1)

Table 1: Distribution of study participants according to age and gender

parameters		No of patients (%)
Age in years	<20	7
	20-30	12
	31-40	22
	41-50	17
	51-60	21
	61-70	15
	71-80	6
Gender	Male	62
	Female	38

In present study, the most common presenting symptom was abdominal pain (90%) which was followed by vomiting (81%), abdominal distension (72%) and constipation (44%). The most common sign reported in present study was tachycardia (66%) which was followed by visible intestinal peristalsis (39%)

patients) and the least common signs was rigidity (27%) which was followed by mass per abdomen (16%) (Table 2)

Table 2: Distribution study participants according to signs and symptoms.

Symptoms and signs	Number of cases (%)
Pain abdomen	90
Vomiting	81
Distension	72
Constipation	44
Tachycardia	66
Previous surgical scar	30
Tenderness	38
Rigidity	27
Mass per abdomen	16
Visible peristalsis	39
PR findings (significant)	2

In present study, most common type of obstruction was due to adhesions result from previous surgeries (30%) which was followed by obstructed/strangulated external hernia present in 18% of the patients. Bands and volvulus were present in 13% and 10% patients. TB stricture of ileum were found in 8% cases followed by hirschprung's and intussusception among 6% cases respectively. Malignancy of the large bowel was seen in 3% patients. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of carcinoid tumour (Table 3)

Table 3: Distribution study participants according to etiology.

Etiology	Number of cases (%)
Post-operative adhesions	30
Obstructed hernia	18
Bands	13
Volvulus	10
TB stricture of ileum	8
Hirschprung's	6
Intussusception	6
Malignancy	3
Mesentric ischemia	2
Meckels diverticulum	2
Meconium ileus	1
Carcinoid tumour	1

DISCUSSION

Mode of clinical presentation of acute intestinal obstruction is reported same among all cases but underlying etiology varies among every age group. Previous studies reported that in earlier century mortality rates and morbidity rates were very high. Now with advancement in pathophysiology and new radiological techniques improves the diagnosis and treatment (8). The newer techniques of gastrointestinal decompression, refinement in fluid and electrolyte imbalance correction, broad spectrum antibiotics and surgical principles including primary anastomosis has reduced the hospital stay and better outcome with lower mortality rates and morbidity rates. Mechanical obstruction is responsible for 5 to 15% of cases out of total acute abdominal pain requiring hospital admission (9).

In present study, out of 100 patients, most common age group involved in this study was 31–40 years (22%). The average age of the study participants was 46.82 years. Next most common age group involved in this study was 51–60 years (21%). Among our study participants, males were more affected compared to females. Majority of the females were in the 51-60 years of age group. The ratio of males to female in the present study was 1.62:1. Similar results were obtained in a study conducted by Cole G et al among 436 cases on acute intestinal obstruction and found that the most common age group reported to be affected was 31–40 years as found in present study (10). Similar results were obtained in a study conducted by Adhikari S et al among 367 cases on acute intestinal obstruction and found that the most common age group reported to be affected was 41–50 years (11). Similar results were obtained in a study conducted by Chalaya P et al among 342 cases on acute intestinal obstruction and found that the males were more affected compared to females. The ratio of males to female was 2.1:1 (12).

In present study, the most common presenting symptom was abdominal pain (90%) which was followed by vomiting (81%), abdominal distension (72%) and constipation (44%). The most common sign reported in present study was tachycardia (66%) which was followed by visible intestinal peristalsis (39% patients) and the least common signs was rigidity

(27%) which was followed by mass per abdomen (16%). Similar results were obtained in a study conducted by Thampi D et al among 50 cases on acute intestinal obstruction and found that the most common presenting symptom was abdominal pain which was followed by vomiting, abdominal distension and constipation (13). Similar results were obtained in a study conducted by Akrami M et al among 411 cases on acute intestinal obstruction and found that the most common presenting symptom was abdominal pain which was followed by vomiting and abdominal distension (14).

In present study, most common type of obstruction was due to adhesions result from previous surgeries (30%) which was followed by obstructed/strangulated external hernia present in 18% of the patients. Bands and volvulus were present in 13% and 10% patients. TB stricture of ileum were found in 8% cases followed by hirschprung's and intussusception among 6% cases respectively. Malignancy of the large bowel was seen in 3% patients. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of carcinoid tumour. Similar results were obtained in a study conducted by Khan J et al among 100 cases on acute intestinal obstruction and found that the most common type of obstruction was due to adhesions result from previous surgeries which was followed by obstructed/strangulated external hernia (15). Similar results were obtained in a study conducted by Malik A et al among 229 cases on acute intestinal obstruction and found that the most common type of obstruction was due to adhesions result from previous surgeries which was followed by tuberculous strictures and obstructed/strangulated external hernia (16).

CONCLUSION

We concluded from the present study that the management of acute intestinal obstruction depends accuracy of diagnosis and treating the underlying pathology of the obstruction along with the main cause itself. We found that found that the most common type of obstruction was due to adhesions result from previous surgeries which was followed by obstructed/strangulated external hernia. Clinical findings along with radiological and operative findings

correlated to better prognosis and outcome of intestinal obstruction.

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