

A PROSPECTIVE STUDY OF CASE SERIES OF INTESTINAL OBSTRUCTION



Surgery

KEYWORDS:

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ABSTRACT

BACKGROUND: History of intestinal obstruction dates back to third or fourth centuries. Hippocrates was the one who recognized, described and treated intestinal obstruction. During this period Praxagoras was the first surgeon made an enterocutaneous fistula to relieve intestinal obstruction. However until late 1800's non-operative managements like hernia reduction, ingestion of laxatives and heavy metals was practiced in most parts of the world.^[1] In seventeenth century, Heister did a resection of strangulated bowel with diversion. He was followed by Pillare who did caecostomy for rectal malignancy. In 19th century Henri Hartmann described Hartmann's procedure. Recent advances made in the field of minimally invasive surgery have shown that laparoscopic approach for acute intestinal obstruction was found to be effective in selected group of patients.

MATERIALS AND METHODS: This study was conducted at Government DHARMAPURI Medical College and Hospital for a period of two years from 2013 to 2015. It is an analytical study that included 100 patients who were diagnosed to have Acute Intestinal Obstruction based on clinical, biochemical and radiological features

RESULTS: The common site of obstruction is small bowel(83%), common age group is between 30-40 yrs, commonest sex is males(77%), commonest etiology being-obstructed/strangulated hernia-33%, mode of presentation is abdominal pain (94%) and the outcome was better and mortality was only in 6% of patients

CONCLUSION: The initial management of patients with acute intestinal obstruction should focus on aggressive fluid resuscitation, decompression of the obstructed bowel, and on prevention of aspiration. Surgery remains to be the cornerstone of treatment. Earlier diagnosis and timely intervention are associated with excellent prognosis. Delayed diagnosis leading to strangulation and increased age are associated with poor outcomes.

INTRODUCTION: Acute intestinal obstruction is one of the most common surgical emergencies. A constellation of conditions causing bowel obstruction at different levels and by different mechanisms can present with similar clinical features. Its early recognition and aggressive treatment can prevent irreversible ischemia and transmural necrosis, thereby decreasing mortality and long-term morbidity. Despite many recent advances in our diagnostic and treatment modalities, the morbidity and mortality due to acute intestinal obstruction remains high. Earlier, obstructed hernia was considered to be the most common cause of acute intestinal obstruction. Now adhesions are the most common cause world wide, but in developing countries hernia still accounts for most cases.

In this study, we will discuss about the age and sex incidence, various causes, clinical features, management and the outcomes of acute intestinal obstruction in our hospital.

AIMS AND OBJECTIVES:

1. To study the age and sex distribution of acute intestinal obstruction.
2. To study the various etiologies of acute intestinal obstruction.
3. To discuss the various clinical manifestations of acute intestinal obstruction.
4. To discuss the various treatment modalities for acute intestinal obstruction.
5. To study the outcomes of patients with acute intestinal obstruction.

MATERIALS AND METHODS

This study was a prospective study conducted at Government DHARMAPURI Medical College and Hospital for a period of two years

from 2013 to 2015. It is an analytical study that included 100 patients who were diagnosed to have Acute Intestinal Obstruction based on clinical, biochemical and radiological features. Ethical committee approval obtained.

INCLUSION CRITERIA:

ALL PATIENTS WITH INTESTINAL OBSTRUCTION
PTS MORE THAN 10 YRS

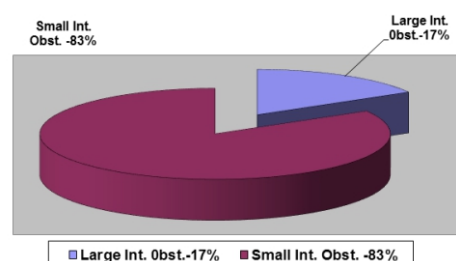
EXCLUSION CRITERIA:

SEVERELY MORIBUND PATIENTS

OBSERVATION:

The details of the patient's name, age, sex, IP. No, symptoms at presentation, investigations, intra-operative findings and their outcome were recorded. The observations were tabulated and compared with recent literature and final conclusions derived.

INCIDENCE OF INTESTINAL OBSTRUCTION



AGEDISTRIBUTION

TABLE:1

| S.No | Age in years | No. of Patients |
|-------|--------------|-----------------|
| 1. | 11 – 20 | 8 |
| 2. | 21 – 30 | 11 |
| 3. | 31 – 40 | 23 |
| 4. | 41 – 50 | 24 |
| 5. | 51 – 60 | 16 |
| 6. | 61 – 70 | 14 |
| 7. | 71 – 80 | 4 |
| 8. | 81 – 90 | 0 |
| 9. | 91 – 100 | 0 |
| TOTAL | | 100 |

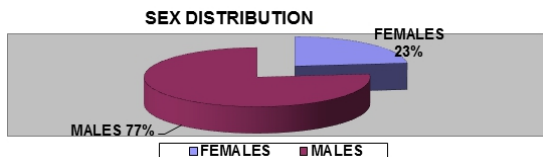
Most common age group affected was between 41 to 50 years.

SEX DISTRIBUTION

Males – 77 cases

Females – 23 cases

Males were affected 3.5 times as common as females



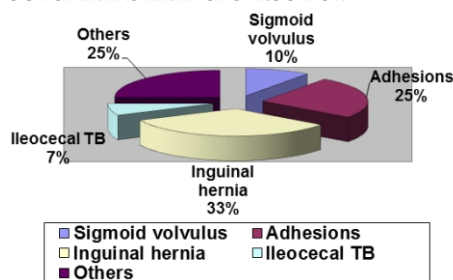
ETIOLOGY

TABLE:2

| S. No | ETIOLOGY | NO. OF CASES |
|-------|--|--------------|
| 1. | Obstructed/ Strangulated inguinal hernia | 33 |
| 2 | Adhesive obstruction | 25 |
| 3. | Ileocecal Tuberculosis | 7 |
| 4. | Para umbilical hernia | 6 |
| 5. | Incisional hernia | 3 |
| 6. | Femoral hernia | 2 |
| 7. | Intussusception | 1 |
| 8. | Meckel's diverticulum | 1 |
| 9. | Ascending colon / hepatic flexure growth | 2 |
| 10. | Descending colon growth | 1 |
| 11. | Sigmoid colon growth | 4 |
| 12. | Rectum/ anal canal growth | 3 |
| 13. | Sigmoid volvulus | 10 |
| 14. | SMA* syndrome | 2 |

*SMA – Superior mesenteric artery syndrome.

ETIOLOGY OF INTESTINAL OBSTRUCTION



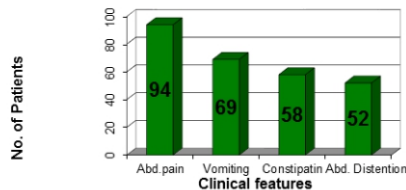
Obstructed inguinal hernia was found to be most common cause followed by adhesive obstruction.

CLINICAL FEATURES

TABLE:3

| S. No | Clinical features | No. of cases |
|-------|----------------------|--------------|
| 1 | Abdominal pain | 94 |
| 2 | Vomiting | 69 |
| 3 | Constipation | 58 |
| 4 | Abdominal distention | 52 |

CLINICAL FEATURES

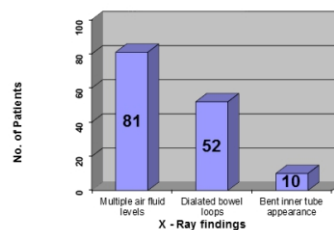


RADIOLOGICAL FINDINGS

TABLE:4

| S. No | Radiological findings | No. of Patients |
|-------|----------------------------|-----------------|
| 1. | Multiple air fluid levels | 81 |
| 2. | Dilated bowel loops | 52 |
| 3. | Bent inner tube appearance | 10 |

RADIOLOGICAL FINDINGS



SURGICAL TREATMENT

TABLE:5

| S. No | Procedure | No. of cases |
|-------|---------------------------|--------------|
| 1. | Hernia repair | 37 |
| 2. | Adhesiolysis | 25 |
| 3. | Resection and anastomosis | 24 |
| 4. | Colostomy | 10 |
| 5. | Ileostomy | 2 |
| 6. | Others | 2 |

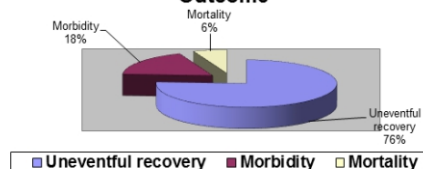
OUTCOME

In most of the patients post-operative period was uneventful. The outcome was tabled as below,

TABLE:6

| S. No | Outcome | No. of Patients |
|-------|---------------------|-----------------|
| 1. | Uneventful recovery | 76 |
| 2. | Morbidity | 18 |
| 3. | Mortality | 6 |

Outcome



DISCUSSION

In this study conducted for 2 years from 2013 – 2015 in Government Dharmapuri Medical College Hospital, Dharmapuri about 100 patients with acute intestinal obstruction were studied and various data's collected from the study were discussed below.

Site of obstruction:

Of the 100 cases, 83 were due to small bowel obstruction and 17 were due to large bowel obstruction. Hence small bowel was frequently involved than the large bowel. Similar reports are seen in a study conducted by Arshad M.Malik and colleagues in the year 2010.^[35]

Age distribution:

Most common age group affected was between 41 – 50 years (24 patients) followed by 31 – 40 years (23 patients). The mean age incidence is 45.5years. The results are comparable to a similar study

conducted by Adhikari and colleagues.^[35,36]

Sex distribution:

Of the 100 patients with acute intestinal obstruction 77% were males and 23% were females which is consistent with the sex incidence of similar studies conducted by Miller and colleagues and many others similar studies.^[34,35,36]

Etiology:

Among the 100 cases, most common cause of acute intestinal obstruction was found to be obstructed/strangulated inguinal hernia which accounted for 33% of the cases. Second most common cause was found to be adhesions which accounted for 25% of cases. Of the 5 cases with strangulation 4 were due to inguinal hernia and 1 was due to incisional hernia. Similar results have been noted in a study conducted by Adhikari Souvik and colleagues in eastern India in 2010. Although post-operative adhesions were found to be the most common cause of obstruction worldwide, in our study inguinal hernias account for most of the cases.^[34,35,36]

Clinical features:

Most of the cases presented with abdominal pain (94%) followed by vomiting (69%), constipation (58%) and abdominal distention (52%). In a similar study conducted by Markogiannakis and colleagues in 2007 absence of passage of flatus was noted in 90% and feces in 80.6% of patients and abdominal distention was noted in 65.3% of patients.^[37]

Radiological findings:

Most common radiological finding was multiple air fluid levels seen in plain X-ray abdomen erect view. This finding was seen in 81 patients followed by dilate bowel loops seen in 52 patients and bent inner tube appearance seen in 10 patients. The observations are comparable to a similar study conducted by Arshad M. Malik and colleagues conducted in the year 2010.^[35]

Surgical procedure:

Most common surgical procedure adopted was hernia reduction and repair (37%), which included inguinal, femoral, incisional and paraumbilical hernia repairs. Next common procedure was Adhesiolysis (25%) followed by resection and anastomosis (24%) and others. In our study most of patients underwent open surgery although studies conducted by Nagle and colleagues on laparoscopic Adhesiolysis in 2004 states that laparoscopic treatment appears to be effective in selected group of patients.^[38]

Outcomes:

Most of the cases recovered without any complications (76%). Infection was the major cause of morbidity and was seen in 18% of patients. Mortality was 6% and was commonly seen in patients with strangulation and increased age. Of 6 deaths 4 were due to sepsis and 2 were due to aspiration. This observation is comparable to a similar study conducted by Adhikari Souvik and colleagues in 2010.^[36,39]

CONCLUSION

This study on acute intestinal obstruction was aimed at studying the age and sex distribution, various etiologies, clinical presentations, different treatment modalities and the outcomes of acute intestinal obstruction.

Acute intestinal obstruction remains to be one of common surgical emergencies. Males are commonly affected mostly during their fourth decades. Obstructed/strangulated inguinal hernia remains to be the most common cause followed by adhesions. They usually present with abdominal pain with multiple air fluid levels in their X-ray abdomen erect view. The initial management of patients with acute intestinal obstruction should focus on aggressive fluid resuscitation, decompression of the obstructed bowel, and on prevention of aspiration. Surgery remains to be the cornerstone of treatment.

Earlier diagnosis and timely intervention are associated with excellent prognosis. Delayed diagnosis leading to strangulation and increased age are associated with poor outcomes.

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