ORIGINAL RESEARCH PAPER
Volume-8 | Issue-10 | October - 2019 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY OF SURGICAL MANAGEMENT OF INTESTINAL OBSTRUCTION

General Surgery

Dr. B. Madhava Krishna M.S, Assistant Professor, Department of General Surgery, Kurnool Medical College, Kurnool.

Dr. Mahadas Anusha* Junior Resident, Department of General Surgey, Kurnool Medical College, Kurnool.

ABSTRACT

Bowel obstruction remains one of the most common intra-abdominal problems faced by general surgeons in their practice whether caused by hernia, neoplasm, adhesions or related to biochemical disturbances, intestinal obstruction of either the small or large bowel continues to be a major cause of morbidity and mortality. Early diagnosis of obstruction, pre-operative preparation, skillful operative management, proper technique during surgery and intensive postoperative treatment carries a grateful result. Although the mortality due to acute intestinal obstruction is decreasing with better understanding of pathophysiology, improvement in diagnostic techniques, fluid and electrolyte correction, much potent anti-microbials and surgical management, but still mortality ranges from 3% for simple obstruction to as much as 30% when there is vascular compromise or perforation of the obstructed bowel.

KEYWORDS

Intestinal Obstruction, Early diagnosis, Mortality

INTRODUCTION

[1]Intestinal Obstruction is defined as obstruction in forward propulsion of the contents of the intestine either due to dynamic, adynamic or pseudo-obstruction. It accounts for up to 5% of emergency admissions to surgical services. Intestinal obstruction can be classified in several different ways, most traditionally into small and large bowel obstruction. Mortality varies widely according to cause and any associated complications, being 100% in patients with untreated strangulated obstructions[2].This is further influenced by the clinical setting and related co-morbidities[3]. Most of the mortalities occurs in elderly individuals who seek late treatment and who are having associated pre-existing diseases like, diabetes mellitus, COPD and cardiac diseases.

OBJECTIVES OF STUDY:

- Size of sample: 50 cases
- To study the various causes of intestinal obstruction.
- Modalities of treatment required.
- To study the various surgical procedures and their outcome in relation to etiological factors in intestinal obstruction patients.

OBSERVATIONS AND RESULTS

The study of 50 cases of intestinal obstruction admitted during June 2018 to May 2019 at Government general hospital, Kurnool is as follows:

INCIDENCE OF DIFFERENT AETIOLOGY

The incidence of different etiologies of intestinal obstruction in the present series are as follows:

The most common cause of intestinal obstruction in our study was obstructed hernias (36%). The next common was adhesions and bands (26%). Other conditions include volvulus, tuberculosis, mesenteric ischaemia, malignancy, intussusception and meckel's diverticulum in descending frequency.

Management

Adhesiolysis was done in 10 cases which included postoperative adhesions and inflammatory adhesions.

Release of bands was done in 3 cases.

Anatomical hernia repair was done in 12 cases of which 7 were inguinal hernia (Modified Bassini repair) and 4 were incisional hernia and 1 was femoral hernia.

Anatomical hernia repair with resection and anastomosis was done in 6 cases of which 2 cases were strangulated inguinal hernia, 2 cases were strangulated incisional hernia and 2 cases were strangulated femoral hernia.

Resection and end-to-end ileo-ileal primary anastomosis was done in 5 cases, which included cases of stricture (2 cases), intussusception (1 case), and mesenteric ischemia (2 cases).

Resection and ileo- transverse anastomosis was done in one case of ileo-caecal tuberculosis.

Resection and end-to-end jejuno-ileal primary anastomosis was done in 1 case with mesenteric vascular ischemia.

Meckel's diverticulectomy was done in 1 case.

Colostomy was done in 3 cases (2 cases of recto-sigmoid growth and 1 case of rectal growth), resection & anastomosis was done in 6 cases (5 cases of gangrenous sigmoid volvulus and 1 case of TB stricture of ascending colon), intussusception milking was done in 1 case and volvulus de-rotation done in 1 case

Postoperative complications observed in this study

Postoperative complications	No.of Cases	Percentage
Wound Infection	6	12%
Respiratory tract infection	3	6%
Enterocutaneous Fistula	1	2%
Prolonged ileus	3	6%
Wound dehiscence	1	2%
Death	5	10%

Moderate to high degree of fever was noticed in case of ileo-caecal tuberculosis, strangulated hernia and recto-sigmoid growth patients.

In 6 patients wound infection was present, ranging from stitch abscess to superficial gaping.

In one case of a stricture of ascending colon, postoperative faecal fistula was formed, which was managed conservatively. Fistula healed completely within 6 weeks.

Prolonged ileus was seen in 3 patients.

5 patients died due to MODS and Septicaemia.

Mortality

In the present study of 50 cases, 5 patients died with the percentage of 10%. The majority of deaths are due to complications like septicemia, multi organ dysfunction and respiratory infection.

DISCUSSION:

Intestinal obstruction continues to be a frequent emergency, which surgeons have to face (1-4% of emergency operations).In our hospital 1667 cases of total abdominal surgeries were done in June 2018 to

May 2019, the incidence of acute intestinal obstruction was about 3% of total surgical cases.

The involvement of small bowel in obstruction is much more common than that of large bowel .The delay in the treatment will lead to high mortality. The mortality has reduced significantly by instituting the treatment at the earliest period. 1-4% of mortality in emergency surgeries is contributed by acute intestinal obstruction[4].

The delay in the treatment will lead to high mortality. Since the advancement in understanding the anatomy, physiology and fluid and electrolyte management along with modern antibiotics and intensive care unit, the mortality has been decreasing consistently. Associated medical problems (like respiratory, cardiac or metabolic diseases) and advanced age carries a considerable contribution in adding to the mortality

1. Obstructed hernias:
In the present series 18 cases of obstruction are related to hernia (36%) out of 50 cases. Among the obstructed hernias, 9 cases are due to obstructed inguinal hernia and 6 cases are due to obstructed incisional hernia and remaining 3 cases are due to obstructed femoral hernias. All cases of inguinal hernia were in male patients and 1 case of incisional hernia was in male. Anatomical hernia repair was done in 12 cases of which 7 were inguinal hernia (Modified Bassini repair) and 4 were incisional hernia and 1 was femoral hernia. Anatomical hernia repair with resection and anastamosis was done in 6 cases of which 2 cases were strangulated inguinal hernia, 2 cases were strangulated incisional hernia and 2 cases were strangulated femoral hernia.

2. Adhesions and bands :
The second most common etiological factor in the present study is adhesions which included postoperative, inflammatory adhesions and congenital bands. Postoperative adhesion occurs in 93% of cases of previous abdominal surgery[5], of these every third patient will be having one of the other clinical signs and symptoms related to adhesion.

Among 93% of the postoperative adhesions, 5% of the cases can develop acute intestinal obstructions, most of them will be within first year (39-60%). The rise in the incidence of adhesions related obstructions are attributed to increased number of abdomino-pelvic surgeries.

3. Volvulus :
Volvulus constituted for about 12% in the present study accounting for 6 out of 50 cases. All the 6 cases were of sigmoid volvulus. Gangrene of sigmoid volvulus was found in 50% of cases in present series.

Small bowel volvulus is a rare but life threatening surgical emergency. The etiology may be primary where cause is not known and secondary due to adhesions, bands.

4. Tubercular stricture :
Tuberculosis is one of the common health problems in developing countries.

In the present series, tuberculosis was found to be a causative factor in 4 cases (8%) out of which 3 cases had ilio-caecal tuberculosis with stricture and adhesions and 1 case had stricture of ascending colon.

5. Mesenteric Ischemia :
Mesenteric vascular ischemia constituted for about 6% in the present study accounting for 3 out of 50 cases The reduced incidence of mesenteric vascular ischemia for the past few years is due to timely intervention of ischemic heart disease and its complications.

6. Neoplasms :
In the present study, intestinal obstruction related to malignancy constituted for 6 % (3 cases). 2 cases are due to recto-sigmoid growth and 1 case was due to growth with stricture in the rectum.

7. Intussusception :
Intussusception is generally regarded as a disease almost exclusively of infants and rarely in adults. In our study of 50 cases of intestinal obstruction 2 cases were of intussusception (4%), out of these 2 cases, 1 was causing small bowel obstruction and 1 large bowel obstruction. All 2 were found in < 20yr of age.

7. Meckel's diverticulum :
Our study concluded with the incidence of Meckel's diverticulum constituting for 2%.

Mortality :
5 cases died following surgery for acute intestinal obstruction (10%). The causes of death were
1. ARDS due to respiratory infections
2. Septicaemia
3. Multi organ failure due to septicaemia

In our study we had mortality rate of 10%.

The decrease in overall mortality is due to better understanding of pathophysiology of obstruction, improvement in resuscitative and supportive treatment, aggressive surgical therapy in combination with improved technique in anaesthesia.

The mortality in intestinal obstruction is high in individuals who develop strangulation and gangrene of the bowel, those present beyond 72 hours and in those are having pre-existing associated diseases and elderly people. Though early treatment can reduce the mortality, advanced age and associated metabolic, cardiopulmonary diseases, still leads to high rate of mortality. Hence the predisposing causes like hernia should be promptly treated early in elderly individuals before they go for complication.

So, it is quite evident that the duration of symptoms, age, general condition of the patient and associated diseases and operative procedures adopted have a definitive role on the prognosis and mortality.

CONCLUSION
Intestinal obstruction remains still an important surgical emergency.

Late presentation of the patient with complications possess a challenging problem to the surgeons for management.

Patients with a clinical picture of obstruction of the bowel demand vigorous correction of fluid and electrolyte imbalance, which can be severe, and life threatening.

Obstructed Hernias are the common cause to produce intestinal obstruction in our study due to lack of awareness among the rural population.

Clinical, radiological and operative findings put together can bring out the best and accurate diagnosis of intestinal obstruction.

Mechanical obstruction is not associated with any specific bio-chemical marker, which can help the surgeon to differentiate simple obstructions from ischemia or a closed loop obstruction with impending bowel infarction. Diagnosis of strangulation is still a challenge.

Majority of the patients with intestinal obstruction need surgical relief of obstruction Early operation is mandatory to avoid the development of peritonitis and systemic sepsis associated with multi organ failure.

REFERENCES
1. NobieB.smallbowel obstruction.http://emedicine.medscape.com/article/774140-overview.
2. ScottG. Houghton, Antonio Ramos De la Medina, MichaelG. Sarr, Maingot's Abdominal Operation, eleventh ed.Mc GrawHill,2007;479-508.
3. Jones RS.Intestinal obstruction. In:Sabiston DC,Jr.editor. Text book of surgery – The biological basis of modern surgical practice 13th edn. 1986.W.B.Saunders Company. 905-13
4. Vander wolk WE, Synder CA, Figg DM. Caecal-Colic adult intussusceptions as a cause of intestinal obstruction in central Africa. World Jr. Surg 1996; 20(3): 341-44.
5. Maglinte DD, Heitkamp DE, Howard TJ: Current concepts in imaging of small bowel obstruction. Radiol Clin North Am 41:263, 2003. [PMID: 12659338]