



A randomised study of Conservative vs Operative management of intestinal obstruction

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ABSTRACT

The aim of this study was to assess incidence, risk factors, and recurrence rates for conservative and surgical management of intestinal obstruction.

Methods: Retrospective chart review was conducted of 100 patients which were randomised select admissions with bowel obstruction. The materials for the clinical study of intestinal obstruction were collected from cases admitted in Smt. NHL Municipal Medical College-Smt SCL Hospital during the period from May 2011 to October 2013. Patients are belonged to any age groups. Patients who were having intestinal obstruction treated either conservatively or surgically were studied to establish the pathology of intestinal obstruction with an aim to know the mode of presentation, physical findings, radiological findings, operative findings and outcome of intestinal obstruction.

Results: 24 percent were successfully treated conservatively, whereas 76 percent failed conservative treatment and underwent surgery. Most commonly used procedure in operative management was resection and anastomosis (27.60%). Adhesiolysis was also done in 23.70%. Duration stay in hospital was higher in operative cases (13.4 days) compare to conservative cases (5.13 days) but recurrence rate was more common in conservative approach (16.66%) compare to operative method (2.63%).

Conclusion: Success in the treatment of intestinal obstruction depends largely upon early diagnosis, skilful management and treating the pathological effects of the obstruction just as much as the cause itself. Patient with intestinal obstruction should be admitted in emergency ward and thoroughly examined. After early resuscitation, investigation should be planned. Mostly erect abdominal x-ray is planned for diagnosis and location of intestinal obstruction. Proper resuscitation before surgery is key factor for recovery of patient. Patients who showed reduction in abdominal distension, improving peristalsis, reduction in pain/tenderness and improvement in general condition treated by conservative management otherwise operate the patient if there was no improvement. Closed observation is need in conservative method. Operatively treated patients had a lower frequency of recurrence; however, they also had a longer hospital stay than that of patients treated nonoperatively.

KEYWORDS : Intestinal obstruction, conservative and operative management, recurrence rate.

Introduction:

Bowel obstruction remains one of the most common intra-abdominal problems faced by general surgeons as bowel obstruction continues to be a major cause of morbidity and mortality.^[1,3,4] They account for 12% to 16% of surgical admissions for acute abdominal complaints. The dictum of never let the sun set or rise in small bowel obstruction has made early surgical intervention for intestinal obstruction². This in turn has reduced the incidence of strangulation of bowel, which was major cause of mortality in already ill patient.^[5,6,7]

The death due to intestinal obstruction is decreasing with better understanding of pathophysiology, improvement in diagnostic techniques, fluid and electrolyte correction, much potent anti-microbial and knowledge of intensive care. Early diagnosis of obstruction skilful operative management, proper technique during surgery and intensive postoperative treatment carries a grateful result.^[8,9,10,11]

Despite many recent advances in our diagnostic and treatment armamentarium, intestinal obstruction will continue to occur. Patients with a bowel obstruction still represent some of the most difficult and vexing problems that surgeons face with regard to the correct diagnosis, the optimal timing of therapy, and the appropriate treatment. Ultimate clinical decisions regarding the management of these patients dictate a thorough history and workup and a heightened awareness of potential complications.^[12,13]

Objectives of the Study:

- To study the various Modalities of treatment including and also the role of imaging studies in determining the aetiology and intervention in intestinal obstruction.
- To assess incidence, risk factor and recurrence rate for conservative and operative management of intestinal obstruction.
- To study the ratio between conservative and operative procedure

for management of intestinal obstruction.

- To study the conservative and operative procedure and its outcome.
- To study the morbidity and mortality rates in intestinal obstruction.

Material and method

The criteria for selection of cases were based on clinical history, physical findings, radiological and haematological investigations. Patients who were having intestinal obstruction treated either conservatively or surgically were studied to establish the pathology of intestinal obstruction with an aim to know the mode of presentation, physical findings, radiological findings, operative findings and outcome of intestinal obstruction. The diagnosis mainly based on clinical examination and often supported by haematological and radiological examinations.

Methods

Study divided into a. Clinical study b. Investigations c. Treatment
Study was conducted under the following headings:
a. History taking b. Physical examination
c. Laboratory examination
d. Radiological examination – Plain X-ray erect abdomen
e. Ultrasound examination f. Treatment and results
g. Follow-up

Results and Discussion:

The age distribution in our series ranges from 3 years to 80 years. The peak incidence is in the age group 31-40 and 61-70 years. The occurrence was common in male (59%) with comparison to female (41%) with male to female ratio 1.4:1. In the present series small bowel obstruction contributed to 87% and large bowel obstruction 13%. Pain abdomen, vomiting, distension, obstipation were present in 77%,

71%, 65%, 53% respectively in the present study & the most common sign was tenderness (81%).

In operative cases the most common cause of intestinal obstruction in our study was postoperative adhesions. The incidence of TB is more common in developing country so incidence of tuberculosis was more (19.40%) which was second common cause in developing intestinal obstruction. The incidence of obstructed/strangulated hernia is reduced due to the awareness of public, the availability of surgical facilities in the periphery for the hernia repair, the hernias are treated early. In our study 6 (6.81%) cases (4 cases of obstructed inguinal hernia, 1 case of strangulated inguinal hernia, 1 case of obstructed internal hernia which was obstructed in defect of mesentery) of hernia was present. The next common was TB abdomen.

In conservative cases one patient was expired during conservative management so the cause could not define & remaining 11 cases were undiagnosed as they were managed conservatively but all cases had previous operative history so may put a diagnosis as postoperative adhesion.

Radiological features

In the present study of the 100 cases 84% of X-ray shows multiple air blood levels. That's way the best investigation in intestinal obstruction.

Barium study (Barium meal follow through) was done in 3 patients who were diagnosed as TB abdomen.

Colonoscopy was done in two patients one had paralytic ileus other had faecal impaction.

CT Abdomen was done in 11 patients (6 had large bowel malignancy, 1 had faecal impaction, 4 had TB abdomen). So CT scan is more important in diagnosis of large bowel obstruction when X-ray is more important in diagnosis of small bowel obstruction.

Management

Conservative vs Operative decision

Decision	No of cases	Percentage
Conservative	24	24%
Operative	76	76%
Total	100	100%

76% cases were operative and 24% cases were managed by conservative in this study.

Management in operative cases

Management	Cases	Percentage
Resection & anastomosis	21	27.60%
Adhesiolysis	18	23.70%
Band release	8	10.50%
Stomy (colostomy, ileostomy, jejunostomy)	8	10.50%
Hernia repair	4	5.30%
Suturing of perforation	4	5.30%
Appendectomy	4	5.30%
Reduction	2	2.70%
Volvulus derotation	1	1.30%
Resection & hernia repair	1	1.30%
Hartmann's procedure	1	1.30%
Strictureplasty	1	1.30%
Meckel's diverticulectomy	1	1.30%
Milking of worms to caecum	1	1.30%
Enterotomy & removal of trichobezoar	1	1.30%
Total	76	100%

In our study surgical procedure was done in 76 cases. Resection & anastomosis was done in 21 (27.60%) cases where the viability of the bowel was doubtful and also for ischaemic bowel, followed by Adhesiolysis was done in 18 (23.70%) cases.

Complications:

Mortality rate was 15%.

Causes of mortality

- Septicemia
- Respiratory infection (Pneumonia)
- Multi organ failure

Presence of comorbid conditions added mortality.

Among 15 expired cases, 14 patients were expired after operative management and 1 patient was expired during conservative management.

Postoperative Complications:

Postoperative complications	Number of cases
Wound infection	11
Respiratory infection	7
Faecal fistula	1
Septicaemia	6
Multi organ failure	1

Duration of stay in hospital

In our study, mean duration of stay in hospital in operative cases is 13.4 days and in conservative cases is 5.13 days.

Recurrence rates

In conservative management, 4 cases had recurrence within 24 cases that's way recurrence rate was 16.66%. In operative management, 2 cases had recurrence within 76 cases that's way recurrence rate was 2.63%.

Conclusion:

- Intestinal obstruction remains an important surgical emergency in the surgical field.
- Success in the treatment of intestinal obstruction depends largely upon early diagnosis, skilful management and treating the pathological effects of the obstruction just as much as the cause itself.
- Patient presenting with diffuse abdominal pain, vomiting, distension and tenderness over abdomen should be suspect of intestinal obstruction. On the basis of abdominal examination, visible intestinal peristalsis and bowel sound further management is guided.
- Such patient should be admitted in emergency ward and thoroughly examined. After early resuscitation, investigation should be planned. Mostly erect abdominal x-ray is planned for diagnosis and location of intestinal obstruction.
- Proper resuscitation before surgery is key factor for recovery of patient.
- If patient present with symptoms and signs of strangulated intestinal obstruction, patient should be operated as soon as possible. In case of simple obstruction trial of conservative management can be given.
- If patient have history of previous surgery with suspect of post operative adhesion can be treated conservatively.
- Patients who showed reduction in abdominal distension, improving peristalsis, reduction in pain/tenderness and improvement in general condition treated by conservative management otherwise operate the patient if there was no improvement. Closed observation is need in conservative method.
- Intra operative findings varied from simple bands to malignancy. So, any surgeon should be well prepared to take proper decision on table for the found pathology. Surgeon must have proper knowledge about resection and anastomosis and stoma formation.
- Intestinal obstruction which is relived by conservative management should be investigated for confirm diagnosis by making further investigation like colonoscopy, barium study, CT scan etc.
- Proper steps should be taken to prevent wound infection, septicaemia and respiratory infection. By such way decrease morbidity and mortality of intestinal obstruction.

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