Original Research Paper

Volume-9 | Issue-7 | July - 2019 | PRINT ISSN No. 2249 - 555X

General Surgery

EVALUATION OF ACUTE INTESTINAL OBSTRUCTION

Dr Rajesh Sonsale Assistant Professor, Department Of General Surgery,Skn Medical College,Narhe, Pune

Dr Harshal Tambe* Assistant Professor,Department Of General Surgery,Skn Medical College, Narhe, Pune
*Corresponding Author

ABSTRACT

Background: Intestinal Obstruction is a common surgical emergency with varied etiology including hernia, postoperative adhesions, malignancy, and stricture with presentation as acute abdomen. In most of the cases, surgical intervention is required. Here we are presenting our experiences regarding acute intestinal obstruction.

Materials and methods: This prospective study was conducted in the department of surgery of SKN medical college, Narhe, Pune. All patients underwent exploratory laparotomy. Laparatomy findings and post operative course were recorded.

Results: 100 patients were treated for acute intestinal obstruction. Most of the patients were in the age group of 51-60 yrs with male/female ratio 2.35:1.

External hernia (44%) was the commonest cause of intestinal obstruction followed by adhesions (34%). Wound infection (8%) was the commonest post operative complication. Mortality results were 10%.

Conclusions: External hernia and adhesions are the leading causes of acute intestinal obstruction . Wound infection and pneumonia are commonly observed complications. Mortality is related to old age and late presentation.

KEYWORDS :

INTRODUCTION

Acute abdomen is a significant cause of mortality in many developing countries. [1]

Acute intestinal obstruction is one of the life threatening emergencies all over the world . Despite advances in the field of medicine, pathophysiology, surgical technique and management , intestinal obstruction remains challenge to surgeon. [2] Abdominal Xray film and ultrasonography have an advantage in the diagnosis of intestinal obstruction. CT scan has additional benefit of defining cause and level of obstruction in many of the patients. [3] Charles V. Mann (1994) has given, the classical clinical advice that ' sun should not both rise , and set' on a case of unrelieved intestinal obstruction ,unless there are positive reasons for delay.[4] The causes of intestinal obstruction include hernias, postoperative adhesions, malignancy, strictures etc. The etiology of this condition varies in different parts of the world and within same country. [5]

The aim of this study is to present our experiences with intestinal obstruction treated with surgery.

MATERIALS AND METHODS

A prospective 100 cases who presented with acute intestinal obstruction admitted and treated in our hospital, were taken in our study during the period 2015-18. Cases were thoroughly investigated like necessary routine blood investigations, X ray Abdomen, ultrasonography and CT abdomen whenever required.

Patients were managed initially with IV fluids, nasogastric decompression, antibiotic administration .

Failure of relief of obstruction on conservative treatment were subjected for surgical intervention that is exploratory laparotomy.

All the data were collected from the available clinical details and analyzed statistically.

RESULT

During this study period ,100 patients of intestinal obstruction were admitted and underwent surgery that is exploratory laparotomy were included in the study.

Most commonly affected age group in the study is between 51-60(30%). Next Most common is 61-70 (16%). They are followed by 41-50 (14) and 31-40 & 71 and above (12% each). The >18-20 had about 6% and 21-30 had the lowest of 6%.

Age group in years	Number of Cases	Percentage
>18-20	10	10%
21-30	6	6%
31-40	12	12%
41-50	14	14%
51-60	30	30%
61-70	16	16%
71 yrs and above	12	12%
TOTAL	100	100

Sex Incidence

Sex	No. Of cases	Percentage
Males	72	72%
Females	28	28%
TOTAL	100	100%

Out of 100 cases, 72 were males and 28 were females with male female ratio of 2.35:1 showing male preponderance.

Sites of Obstruction

Site of Obstruction	No. Of cases	Percentage
Small Bowel	86	86%
Large Bowel	14	14%

In our study, small bowel obstruction was more common with 86%, while large bowel obstruction was 14%.

DURATION OF SYMPTOMS

Duration of Symptoms	No. Of cases	Percentage
1 to 2 days	30	30%
3 to 4 days	60	60%
5 to 6 days	10	10%

Most of the patients presented to the hospital before 96hrs following the onset of symptoms (60%), while 30% presented before 48 hrs and 10% before 6 days.

SYMPTOMS

Symptoms	No. of cases	Percentage
Abdominal Pain	100	100%
Abdominal Distension	96	96%
Vomiting	92	92%
Constipation	66	66%

In our study, most of the patients presented with abdominal pain ,distension, vomiting and constipation .

SIGNS

Signs	No. Of cases	Percentage
Tachycardia	12	12%
Hypotension	8	8%

Fever	10	10%
Distension	100	100%
Scar	54	54%
Visible Bowel Loops	64	64%
Obstructed inguinal hernia	24	24%
Incisional Hernia	20	20%
Abdominal Tenderness	100	100%
Rigidity	5	5%
Lump in abdomen	8	8%

In our study, on general examination, tachycardia (12%), hypotension (8%) and fever (10%) were observed.

While on local examination, distension (100%), scar (54%), visible bowel loops (64%), obstructed inguinal hernia (24%) , abdominal tenderness (100%) , rigidity (5%) and lump in abdomen (8%) were found.

Etiology of Obstruction

Etiology	Number of Cases	Percentage
External Hernia	44	44%
Adhesions	34	34%
Malignancies	10	10%
Volvulus	2	2%
Tuberculosis	4	4%
Intussusception	2	2%
Meckel's Diverticulum	4	4%

External hernia was the most common etiological finding, constituting about 44% of the cases, followed closely by adhesions at 34% . Malignancies stood out at 10% while tuberculosis and Meckel's diverticulum occurred at 4% each. Volvulus and intussusceptions had an occurrence of 2% each.

Associated Diseases

Associated Diseases	No. Of Cases	Percentage
Diabetes Mellitus	8	8%
Liver Cirrhosis	1	1%
Hypertension	12	12%
Ischaemic Heart Disease	2	2%
COPD	2	2%

Hypertension was the most commonly associated disease at 12%, while Diabetes Mellitus stood at 8%. Ischaemic Heart Disease and COPD had an occurrence of 2% each and there was one case of Liver Cirrhosis.

Post-op Complications

Complications	No. Of cases	Percentage
Wound Infection (Surgical Site Infection)	8	8%
Wound Dehiscence/ (Burst Abdomen)	2	2%
Septicemia	1	1%
Pneumonia	5	5%
Faecal Fistula (Enterocutaneous Fistula)	1	1%
Death	10	10%

Mortality rate is 10% in our study.
All these patients presented late and belong to the elderly age group.

DISCUSSION

Most commonly affected age group in the study is between 51-60(30%).

Similar observation was reported in the study conducted by Gill SS et al.[6]

In the studies conducted by Adhikari S et al most commonly affected age group was 41 to 50 years. [7]

While in the studies by Singh H et al [8] and Cole GJ et al. [9] the most commonly affected age group was 31 to 40 years

However no age is immune for Intestinal Obstruction [5]

Male to female ratio in this study was 2.35:1 .

Similar results are seen in a. Study conducted by Bhange et al. [2]

Most of the other studies shows male preponderance. [10-11]

It may be because a large number of our patients had obstructed or strangulated inguinal hernia, and in our country males as compared to females suffer more from the inguinal hernias.
Similar observation made by Deshmukh et al [5]

In our study, small bowel obstruction was more common with 86%, while large bowel obstruction was 14%.

Similar observations are reported by other studies.[5,10]

Majority of patients (60%) presented late to hospital i.e. 48 hours after the onset of symptoms Most of the patients belong from the lower socio-economic group and are from rural areas.

Majority of patients presented with classical symptoms like pain in abdomen (100%), distension of abdomen in 96(96%), vomiting in 102 (79.06%) and constipation in 86 (66.66%) cases. Other rarer presentations included swelling in inguinal region in19 (14.72%),

On local examination, most of the patients, 96 (96%) had abdominal distention. Abdominal tenderness was found in 103 (79.84%) cases, scar abdomen in 45(34.88%), tachycardia in 44 (34.10%), visible loops in42 (32.55%), hyperteristaltic bowel sounds in 42(32.55%) cases, lump in abdomen in17 (13.17%) cases, guarding in 26 (20.15%) cases, absent bowel sounds in 25(19.37%) cases, irreducible inguinal swellings in19 (14.72%) cases and rigidity in 3 (2.32%) cases. Similar results observed by Bhange et al. [2]

External hernia was the most common etiological finding, constituting about 44% of the cases, followed closely by adhesions at 34% . Malignancies stood out at 10% while tuberculosis and Meckel's diverticulum occurred at 4% each. Volvulus and intusussusception had an occurrence of 2% each.

Most common procedures done were Resection anastomosis, reduction of hernia with repair, derotation of Volvulus. Other procedures undertaken were Adhesiolysis, enterotomy , reduction of intussusception ,colostomy, bypass and stricturoplasty.

Similar findings are also reported by various national and international studies.[7,12,13]

Wound infection was the commonest post-operative complication noted in our study. Similar observation was also reported by other studies. [7,12]

The overall mortality rate in our study is 10%.
This figure is comparable with other studies. [13, 14]

CONCLUSION

Acute intestinal obstruction is a life threatening emergency commonly seen in males that presents with the classical symptoms of pain, distension, vomiting and constipation.

External inguinal hernia and adhesions are leading etiological factors of intestinal obstruction. Wound infection and pneumonia are commonly observed complications and mortality rate is related to the delayed presentation and old age.

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