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CURRENT SPECTRUM OF ACUTE INTESTINAL OBSTRUCTION AT CMC LARKANA.

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ABSTRACT

OBJECTIVE: *To determine the presentation, etiological pattern, management and outcome of acute intestinal obstruction in tertiary care hospital Larkana.*
DESIGN: *Case series study.*
PLACE AND DURATION OF STUDY: *This study was carried out at Surgical Unit-I, Chandka Medical College Teaching Hospital, Larkana, between January 2006 to June 2009, over a period of three and half years.*
PATIENTS AND METHODS: *A total number of 120 patients with various patterns of mechanical intestinal obstruction were included while those with history of trauma and paralytic ileus were excluded.*
After adequate resuscitation all patients with persistent signs of strangulation were operated.
All parameters were entered in specially designed proforma. Data analysis was done by using SPSS version 13.
RESULTS: *Among 120 patients, 72 were male and 48 were female, with ratio of 1.6:1. Their age ranged between 16 to 82 years (Mean 42.5 year). Abdominal pain(93.3%) and distention (91%) were common symptoms, The commonest causes of intestinal obstruction were obstructed / strangulated external hernias (25.83%) and intestinal adhesions (23.33%), followed by ileocaecal tuberculosis (10.83%), colonic malignancy (13.83%) and large gut volvulus (13.83%). Postoperative complications were observed in 38 patients (31.67%) and wound infection was on the top (15.83%). Average hospital stay was 7.9 days. The mortality rate was 6.66%.*
CONCLUSION: *External hernias, as a cause of intestinal obstruction is the commonest pattern of its presentation in developing countries, followed by adhesions and tuberculosis. Increasing the patients awareness will help to decrease the incidence of obstructed hernias significantly, because the single most important antecedent of a grave prognosis in intestinal obstruction / strangulation is late presentation.*

KEY WORDS: Intestinal obstruction, laparotomy, external hernia, intestinal tuberculosis, intestinal adhesions.

INTRODUCTION

Acute intestinal obstruction is one of the common surgical emergency. The small bowel obstruction is the site of obstruction in most of the cases.[1]

There are two types of intestinal obstruction, Dynamic and adynamic. In dynamic obstruction peristalsis work against the mechanical obstruction, while in adynamic obstruction peristalsis may be absent or it may be present in non-propulsive form.[2]

Mechanical intestinal obstructions, forms important part of pathologies that necessitate emergency surgical interventions in parts of Asia, including India, Iran and Pakistan. [3]

Mechanical obstruction with certain exception, relieved on conservative treatment, unrelieved obstruction needs exploration.[4]

Intestinal obstruction is common in Pakistan and other tropical countries, but majority of cases present late. This lead to delay in its management and hence increase complication rate.[5]

Now a day, laparoscopy has some role in the cases of acute intestinal obstruction as therapeutic or diagnostic. In some setting laparoscopic or laparoscopic assisted surgery is considered feasible and more convenient than conventional surgery[1], but it needs expertise and costly instruments.

The variation in disease spectrum from time to time is well documented and causes of obstruction differ from country to country and different parts of the same country.[6] There fore regular research should be done to evaluate these causes and strategy should be made to deal with them.

PATIENTS AND METHODS

This prospective study was carried out in Surgical Unit-I, Chandka Medical College Teaching Hospital ,Larkana, from January 2006 to June 2009 , over a period of 3 ½ years. A total number of 120 patients with various patterns of intestinal obstruction were included in this study while those with history of trauma and paralytic ileus were excluded from the study.

After proper history and clinical examination, patients were investigated. Radiology and laboratory investigations including X-ray abdomen erect and supine, X-ray chest PA view, complete blood count, serum electrolytes, urea, creatinine, and blood sugar were done. Blood was arranged after grouping, cross-matching and screening.

While investigations sent, patients were resuscitated by maintaining I/V line, passing NG tube, Foley's catheter and broad spectrum antibiotic given.

After initial measures of optimization, patients were re-assesssed, those having the sign of strangulation like pain, vomiting, distention, constipation, raise pulse, temperature and tenderness were operated while responders were treated conservatively. Study parameters including age, sex, duration of symptoms, clinical features(abdominal pain, vomiting, constipation, distension, abdominal tenderness, bowel sounds), cause, site of obstruction, procedure performed, complications and hospital stay, were entered in specially designed proforma.

RESULTS:

A total number of 120 cases with various etiologies of mechanical intestinal obstruction were included in this study to determine the pattern and outcome of this problem. Age ranged from 16 to 82 years. Mean age was 42.5 years. Majority of patients 51(42.5%) were aged between 50–80 years and second peak age incidence was among young patients between 16–30 years, 43 patients (35.83%) (Table-I).

There were 72 male and 43 female with male to female ratio 1.6:1

Among 31 cases of external hernia, 24 (20%) were inguinal (all male), 5 (4%) paraumblical and 2 (1.66%) huge incisional hernia (all female). Gangrenous bowel was found in 6 (5%) cases where resection & end to end anastomosis was performed.

TABLE-I - AGE DISTRIBUTION IN ACUTE ABDOMEN (N=120)

Age Group	No. of Patients	Percentage
10-20	20	16.66%
21-30	22	18.33%
31-40	14	11.67%
41-50	12	10%
51-60	23	19.17%
61-70	20	16.66%
71-80	8	6.67%
>80	1	0.83%
Total	120	100%

Abdominal pain (93.3%) and distention (91%) were common symptoms. Other clinical features are given in table II.

TABLE-II – CLINICAL FEATURES IN ACUTE ABDOMEN (N=120)

Clinical presentation	No of cases	Percentage
Abdominal pain	112	93.33%
Abdominal distention	109	91%
Constipation	99	82.5%
Vomiting	105	87.5%
Fever	30	25%
Tenderness	66	55%

In 91 patients (75.83%) small bowel was involved and in 29 patients (24.17%) large bowel obstruction was found. The ratio of small to large bowel obstruction was 3.1 :1(Table-III)

TABLE-III - SITE OF BOWEL INVOLVEMENT. (N=120)

Site	No. of Patients	Percentage
Small bowel	91	75.83%
Large bowel	29	24.17%
Total	120	100%

In this study, the most common cause of intestinal obstruction was external hernia in 31 patients (25.83%), followed by intestinal adhesions in 28 patients (23.33%). Other causes are given in table IV

TABLE-IV– CAUSES OF INTESTINAL OBSTRUCTION IN THIS STUDY (N=120).

Causes	No. of Patients	Percentage
External hernia	31	25.83%
Intestinal Adhesions	28	23.33%
Large gut volvulus	13	10.83%
Intestinal tuberculosis	13	10.83%
Carcinoma colon	13	10.83%
Intestinal Strictures	10	8.33%
Bands	6	5%
Intussusceptions	3	2.5%
Internal hernia	1	0.83%
Gall stone ileus	1	0.83%
Small gut tumour	1	0.83%
Total	120	100%

In 28(23.33%) patients of intestinal adhesions, 21(17.5%) were having post operative adhesions, 5 (4%) were due to primary adhesions (Plastic abdomen proved tuberculosis by biopsy), and 2(1.66%) were because of frozen pelvis. The cause of first surgery was appendicectomy in 7(6%), laparotomy for peritonitis in 12(10%) and resection and anastomosis for malignancy in 2(1.66%). .

In 13(11%), cases of large gut volvulus, 12 (10%), were having sigmoid volvulus and one was having caecal volvulus with gangrene and perforation. All were above 50 years in which 7 were males and 6 were females.

In 13(10.83%), cases of ileo-caecal tuberculosis (proved after biopsy report), right hemicolectomy was performed in all cases. Among 13(11%), cases of colonic malignancy, 7 (6%), were having involvement of recto sigmoid region, 5 (4%), were of right colon and one patient was having transverse colon lesion. Resection and anastomosis was performed.

Among 10(8.3%), patients of intestinal strictures, 4(3.33%), were having single and 6 (5%), were having multiple strictures. Intestinal resection and anastomosis, and adhesiolysis were the commonest operative procedures performed.

The most common procedure performed was stoma formation in 21.6%. other procedures performed are gavie in table V. Average hospital stay was 7.90 days; the minimum stay was 4 days while the maximum was 28 days because of some complications. In this study of 120 cases, 8 patients died (6.66%).

Overall out come of this study is given table VII.

TABLE-V – PROCEDURE PERFORMED DURING LAPAROTOMY.

Procedure	No. of Patients	Percentage
Ileostomy	26	21.6%
Adheiolysis	10	8.3%
Hartmann	3	2.5%
Paul MaKulicz's	7	6%
Stricturoplasty	4	3.33%
Rt Hemicoloectomy	13	11%
Resection and anastomosis	16	16%

After initial resuscitation, 7 (6%) patients responded to conservative management. Pain decreased, vomiting subsided, started passing flatus and faeces, and distention decrease. These were not operated.

Postoperative complications were recorded in 38 patients (31.66%), in which wound infection occurred in 19 patients (15.83%), other complications are given in table VI.

TABLE-VI – POST OPERATIVE COMPLICATIONS (N=38).

Causes	No. of Patients	Percentage
Wound infections	19	15.83%
Brust abdomen	2	1.67%
Anastomosis leakage	3	2.5%
Septicoemia	6	5%
Chest complications	5	4.17%
Cardiac complications	1	0.83%
Renal failure (Ureania)	2	1.66%
Total	38	31.66%

TABLE -VII – OUTCOME OF PATIENTS WITH INTESTINAL OBSTRUCTION (N =120)

Out come	No. of Patients	Percentage
Conservatively treated and discharged	7	5.83%
No complications	67	55.83%
Complications	38	31.66%
Mortality	8	6.66%
Total	120	100%

TABLE-VIII – COMPARISON OF COMMON CAUSES OF INTESTINAL OBSTRUCTION

Study	External hernia	Tuberculosis	Volvulus	Adhesions	Malignancy
Ahmed M 5	9%	385	8%	18%	17%
Balouch NA 6	27.55%	29.3%	13.7%	17.2%	-
Choudary AK13	13%	20%	11%	26%	19%
Mehmood Z14	26.84%	38.13%	6.22%	17.12%	10.09%
Khanzada TW15	12%	41%	-	33%	-
Safir ullah16	10.76%	7%	24.31%	0.69%	12.15%
Present study	25.83%	23.33%	10.83%	23.33%	11.6%

DISCUSSIONS

Intestinal obstruction remains one of the commonest surgical emergencies.[7]

The diagnosis of intestinal obstruction is based on the classic quartat of pain, distention, vomiting and constipation.[2]

With hernias being electively repaired and obstructive hernias becoming less common, adhesive obstruction has emerged as the leading cause of intestinal obstruction in the west.8 obstruction in comparison to other studies globally.

Among total 120 patient, maximum patients in this study were in between 50-80 years (42.5%) and mean age was 42.5 years, where as Muyembe VM9, Sinha S 10 reported the highest incidence among young age between 2-50 years. In other's study mean age is 33 and 37.8 years respectively. [11, 5]

Male to female ratio in this study was 1.6:1, which shows slightly male preponderance as compared to other studies. [9, 10,12]

In this study, the most common cause of intestinal obstruction was strangulated external hernia (25.83%), followed by adhesions (23.33%), intestinal tuberculosis with ileo-caecal mass and strictures (19.17%), large gut volvulus (10.83%), and malignancy (10.83%) as compared to other studies. Table VIII

In various other studies reported by Tamijmarane A7, Wysocki A[17], , and Shittu OB[18], strangulated external hernia was the most frequent cause of obstruction, as observed in our study also, which is opposite to a typical pattern of developed countries. This is most likely because of lack of awareness about this problem among general population, therefore presented late. The prevalence of abdominal tuberculosis is also on rise in the developing countries, so also in this study of 120 cases, 28 (23.33%) were found having intestinal tuberculosis in which 13 presented with ileo-caecal mass, 10 with strictures ,and 5 with plastic adhesions as compared to other studies. [19, 20]

Intestinal resection and anastomosis, and adhesiolysis were the commonest operative procedures performed. About 16 patients were found having gangrenous gut and 2 were associated with perforation as well.

In 38 patients (31.67%) postoperative complications were noted and the commonest being wound infection, followed by septicaemia, and chest infection which is comparable to other studies.[5,6,9,11,]

The mortality rate in this study recorded was 8(6.66%) among 120 patients (5 died because of speticaemia with late presentation, while 3 were having associated cardiac and chest problems), which is less as compared to other studies. [5, 9, 12, 21, 22] This may be because of meticulous approach towards resuscitation, proper peritoneal wash with normal saline and pyodine, and judicious antibiotic coverage against aerobes & anaerobes.

CONCLUSION

Intestinal obstruction is a fairly common surgical emergency in developing countries, where obstructed external hernia is the commonest pattern of its presentation, followed by intestinal adhesions. A careful approach is required to avoid the increased morbidity and mortality associated with delay in the diagnosis of gangrenous obstruction. This study confirmed that the single most important antecedent of a grave prognosis in intestinal obstruction is late presentation of the patient.

It is concluded that increasing the patient awareness will help to decrease the incidence of obstructed hernias significantly.

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