ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 01 | January - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

STUDY OF 81 CASES OF INTESTINAL OBSTRUCTION : EXPERIENCE OF SINGLE SURGICAL UNIT OVER 5 YEARS DURATION

Surgery

Dr Kusum Meena* Professor ,Department of Surgery ,Lady Hardinge Medical College ,New Delhi
*Corresponding Author

Dr Ashish Arsia Professor ,Department of Surgery ,Lady Hardinge Medical College, New Delhi

ABSTRACT

Background: Acute intestinal obstruction (AIO) remains the commonest surgical emergency in 21st century, too in India as well as western countries ,however the aetiologies leading to intestinal obstruction differs in order of frequency.
Material & methods: This was the prospective observational study of patients admitted with diagnosis of AIO between August 2014 to July 2019 and comprised of 81 such cases . All patients with clinical and radiological evidence of AIO were included in study .The treatment options were decided after close monitoring of patients .Details of all patients were recorded on proforma sheet .
RESULTS: Incidence of AIO in our study was 20.25% . Out of 81 cases of AIO 33 (40.74%) were males and 48 (59.25%) females. The majority of patients were in range of 15-60 years. Small bowel obstruction (SBO) was observed in 63 (77.77%) and large bowel obstruction (LBO) was observed in 18 (22.22%). Thirty six patients (44.44%) were managed conservatively and 45 patients (55.55%) with operative procedure . A large number of patient 48/81 (59.25%) were found to have evidence of abdominal tuberculosis on clinical radiological or on histopathological examination .In tubercular cases stricture formation was the commonest aetiology 18/48 (37.5%). Stoma formation was the commonest surgical procedure 22/45 (48.88%) and second commonest was the resection anastomosis 17/45 (37.77%) . Mortality among operated cases was2/45 (4.44%) and morbidity observed in 18/45(40%) cases in form of post operative fever, chest infection ,wound infection , anastomotic leak.
Conclusion: Patients with AIO warrants close monitoring ,judicious resuscitation and prompt decision for surgery and expert surgical skills of operating surgeon .Pre operative ,intra operative and post operative all three stages carry equal weightage in determining the final out come. Abdominal tuberculosis should be suspected as a cause of AIO in India.

KEYWORDS

Acute intestinal obstruction , Abdominal tuberculosis

INTRODUCTION

Acute intestinal obstruction remains the commonest surgical emergency in 21st century too, in India as well as western countries ,however the aetiologies leading to intestinal obstruction differs in order of frequency .Encounter with IO is routine thing in emergency set up .Some cases respond to conservative management and rest need surgical intervention .Abdominal tuberculosis is common public health problem in India and significantly contribute to IO cases too.(1,2,3)

In USA in 70 % of cases Small bowel obstruction is due to adhesions and associated with considerable morbidity and mortality .In one study done at tertiary care hospital in India in 2010 the incidence for AIO was 9.87% (4)

Abdominal pain ,nausea ,vomiting ,constipation and abdominal distension are usually present and history of previous abdominal surgery and presence of irreducible hernia is not uncommon. Postoperative adhesion formation ,obstructed hernia ,obstruction secondary to malignancy and in less common causes presence of congenital bands ,inflammation ,radiation ,bezoars intussusception and volvulus are there (5)

The main diagnostic challenges posed by small bowel obstruction are
1) To establish underlying cause
2) The identification of strangulation
3) To determine which patient can be managed nonoperatively

Repeated clinical examination by an experienced surgeon plays vital role in appropriate timely intervention. (6)

Large bowel obstruction is a complex condition with variable presentation of patients ,causes can be colorectal adenocarcinoma ,extra colonic adenocarcinoma ,diverticular disease ,volvulus and inflammatory bowel diseases. (7)

With recent advancement in technology has led CT to diagnose SBO ischemia and has role in predicting surgical intervention and give information about aetiology and transition point with more accuracy. (8)

AIMS AND OBJECTIVES

1) To study incidence and different aetiology of acute intestinal obstruction
2) To study symptoms ,signs and final management of patients

MATERIAL & METHOD

This was the prospective observational study of patients admitted with diagnosis of AIO between August 2014 to July 2019 and comprised of 81 such cases .All patients with clinical and radiological evidence of AIO were included in study .The treatment options were decided after close monitoring of patients .Details of all patients were recorded on proforma sheet with all the details of symptoms & signs ,radiological investigations ,intraoperative findings and operative procedure performed .The observations were entered in excel sheet and analysed using SPSS 17

INCLUSION CRITERIA

All patients above 15 years with clinical or radiological diagnosis of AIO

OBSERVATION AND RESULTS

The incidence of AIO was 81/400 (20.22%) in our study .History of previous surgery was there in 18/81(22.22%) however only in two cases AIO was found due to adhesive obstruction .Operative mortality was 2/45(4.44%) and morbidity was 18/45(40%) in form of post operative fever,chest infection ,wound infection and anastmotic leak .Anti tubercular treatment(ATT) was given in 39/48 cases .ATT was not given in cases in which histopathology showed non tubercular granulomatous disease . Chest x ray abdominal x ray USG abdomen was done in all 81 cases of AIO ,however CECT was done in 42/81(51.85%) of cases .Out of 45 patients who were operated 8 of them were already taking ATT and 4 were defaulters. In 4 patients diagnostic laparoscopy was done .

Table 1 Age wise distribution

S.No	Age in years	Number of patients	Percentage (%age)
1.	< then 15	4	4.93
2.	15 to 30	22	27.16
3.	31 to 45	28	34.56
4.	46 to 60	18	22.22
5.	61 to 75	9	11.11
		n=81	

Maximum number of patients were in 31- 45 years of age group and 15- 60 years age group included 83.94 % of cases.

Table 2 Sex distribution

S.No	Sex	Number of patients	Percentage (%age)
1.	Male	33	40.74
2.	Female	48	59.25
		n=81	

In our study females outnumbered males.

Table 3 Clinical features

S.No	Clinical Features	Percentage (%age)
1.	Abdominal Pain	94
2.	Distension	89
3.	Obstipation	80
4.	Vomiting	75
5.	Increased bowel sound	70
6.	Absent bowel sound	22
7.	Tenderness	80
8.	Groin swelling	9.87
9.	Visible peristalsis	23
10.	Guarding	55
11.	Rigidity	16
12.	Palpable Mass	3.5

Clinical tetrad of abdominal pain ,distension ,obstipation and vomiting was observed in significant percentage of cases.

Table 4 Site of intestinal obstruction

S.No	Sight of obstruction	Number of patients	Percentage (%age)
1.	Small bowel	63	77.77
2.	Large bowel	18	22.22
		n=81	

SBO cases were far more common in comparison with LBO .

Table 5 Etiology of Intestinal obstruction

S.No	Etiology	Number of patients	Percentage (%age)
1.	Intestinal Mal Rotation	1	1.23
2.	TB	48	59.25
3.	IBD		
	UC	3	3.70
	CD	4	4.93
4.	Bowel Tumour		
	Primary Small Bowel	1	1.23
	Primary Large bowel	5	6.17
	Secondary Involvement	4	4.93
5.	Others		
	Intussusception	3	3.70
	Worms	2	2.46
	Obstructed hernia	8	9.87
	Adhesions	2	2.46
		n=81	

Abdominal tuberculosis (59.25%) was the commonest cause followed by obstructed hernia in 9.87% cases .Postoperative adhesion were cause of AIO in 2.45 %.

Table 6 Plan of management

S.No	Plan	Number of patients	Percentage (%age)
1.	Conservative	36	44.44
2.	Operative	45	55.55
		n=81	

The number of patients managed conservatively was 44.44% and operative intervention needed in 55.55% cases.

Table 7 Introperative and imaging findings in 48 cases of tuberculosis (both operative and non operative group)

S.No	Findings	Number of patients	Percentage (%age)
1.	Stricture	18	37.5
2.	Tubercles	11	22.91
3.	Pyoperitoneum	06	12.5
4.	Cocoon	05	10.4
5.	Ileocaecal mass	08	16.66
		n=48	

In cases of abdominal tuberculosis small bowel stricture was the commonest findings followed by tubercles .On surgery front out of 45 operative cases in 4 cases diagnostic laparoscopy was done in rest open surgery was planned from starting. In 22 (48.88%) cases stoma was made,in 17(37.77%) resection anastomosis was done ,left hemicolectomy in 2,hartmans in 3 and limited right hemicolectomy in 1 case .

DISCUSSION

AIO remains the common factor leading to admissions in surgical emergency world wide.

The reported incidence of AIO in our study was (81/400)20.25% which is much higher then the previously reported 9.87% in 2010.(4) In western countries adhesive intestinal obstruction is common but in Indian studies obstructed hernia and abdominal tuberculosis are more common

Study of 150 patients of IO published in 2007 by Markogiannakis H reports SBO in 76% and LBO in 24 % cases and aetiology wise adhesions (64.8%),incarcerated hernia (14.8%),large bowel cancer (13.4%).58.7% patients were managed conservatively and 41.3% cases were managed surgically .In our study SBO (77.77%),LBO (22.22%) and 44.44% managed conservatively and 55.55% were managed surgically so the results were comparable with above study ,however major difference was observed in causative aetiology. In our study adhesion was cause in 2.46% cases and Markogiannakis reported adhesions in 64.8% cases .(9)

While looking for clinical signs and symptoms in our study group abdominal pain (94 %), abdominal distension 89%,vomiting 75 % ,obstipation 80 % .As literature suggests classical tetrad of 1) Abdominal pain ,2) Nausea or emesis,3) abdominal distension 4) constipation to obstipation ,so these are the common features other signs observed could be increased or absent bowel sound ,tenderness , guarding ,rigidity ,visible peristalsis ,palpable mass or groin swelling .(5,10)

Alam J reported SBO (81.36%) and LBO (18.63%) with TB as commonest aetiology .Out of 367 patients 79 (21.52%) were managed conservatively and 78.48% were managed surgically .(5)

Adhikari S reported obstructed hernia as commonest cause followed by malignancy and adhesions and the incidence of TB was 14.17% and our study it was 59.25% .(4)

In our study x ray abdomen ,chest x ray ,USG abdomen was done for all cases while CT scan was done in 42/81 cases (51.8%%) .according to reports of Li Z CT is good investigation to look for ischemia in obstructed bowel ,telling about transition point and predicts surgical intervention too. Similar recommendation were made by Rami Reddy et al and they stated that abdominal CT with oral and IV intravenous gastrografin contrast is highly sensitive and specific in detecting /characterizing SBO .(8,10)

In our study mortality was 4.44% and in Alam J reported 5.32%,Rami Reddy 10%,Adhikari S 7.35%(4,5,10)

In a study by Kirubagaran B in 2019 incidence of AIO reported was 0.567 % ,most common aetiology was adhesions 23.3% followed by hernia .46.7% were managed surgically ,35.6% with conservative approach and 17.8% were discharged against medical advice .(11) In another study by Khayat M in 2014 mechanical obstruction was found in 232/320 (72.5%) and functional obstruction was there in 88/320 (27.5%) patients and post operative adhesion was cause for AIO in 28.75% patients followed by intestinal tumour in 13.44% cases .

The cases of AIO shows variation in incidence in different geographical areas and even in same country varies region to region .Abdominal tuberculosis was seen in large number of cases in our study. In literature most studies suggest postoperative adhesion as commonest cause for AIO.

CONCLUSION

Patients with AIO warrants close monitoring ,judicious resuscitation and prompt decision for surgery and expert surgical skills of operating surgeon.Pre operative ,intra operative and post operative all three stages carry equal weightage in determining the final out

come.Abdominal tuberculosis is a significant cause for AIO cases and should be dealt tactfully.

Financial support and sponsorship
Nil

Conflict of interest
There are no conflicts of interest

REFERENCES

1) McConkey SJ. Case series of acute abdominal surgery in rural Sierra Leon .World J Surg 2002;26 : 509-13
2) Ohene – Yeboah M ,Adippah E, Gyasi – Sarpong K .Acute intestinal obstruction in adults in Kumasi ,Ghana .Ghana Med J 2006;40:50-54
3) Malik AM, Shah M, Pathan R, Sufi K.Pattern of acute intestinal obstruction : Is there a change in underlying aetiology?The Saudi J Gastroenterol .2010;16 (4) :272-274
4) Adhikari S, Hossein MZ ,Das A, Mitra N, Ray U .Etiology and outcome of acute intestinal obstruction : A review of 367 patients in eastern India .Saudi J Gastroenterol 2010;16:285-7
5) Alam J, Vashney A, Aslam M,Afaque Y.A clinical study of acute intestinal obstruction in adults at a tertiary care centre in north India .International journal of current Advanced Research .2017 6 (12) :8616-8621
6) Wilson MS, Ellis H, Moran BJ, Parker MC, Thompson JN . A review of the management of small bowel obstruction .Members of the surgical and clinical adhesions research study (SCAR).Ann R Coll Surg Engl .1999 sep ;81 (5):320-328
7) Rebecca s. Sawai MD. Management of colonic obstruction :A Review . Clin Colon Rectal Surg .2012 Dec; 25(4) 200-203
8) Li Z, Zhang L, Liu X ,Yuan F,Song B. Diagnostic utility of CT for small bowel obstruction :Systematic review and meta analysis .PLoS ONE 14 (12) : e 0226740 doi : 10.1371/journal Pone .0226740
9) Markogiannakis H ,Messaris E, Dandamanis D, Pararas N, Tzertzemelis D,Giannopoulos P et al .Acute mechanical bowel obstruction ,clinical presentation ,aetiology ,management and outcome . World J Gastroenterol WJG .2007 Jan 21;13(3) :432-7
10) Rami Reddy SR, Cappel MS.A systematic review of the clinical presentation ,diagnosis and treatment of small bowel obstruction .Curr Gastroenterol Res 2017 Jun 19(6) 28 doi :10.1007/s11894-017 0566-9 PMID 28439845
11) Kirubagaran B ,Abhilash K P ,Sharma SL.A prospective study to determine the clinical profile of patients suspected to have acute intestinal obstruction in the emergency department .Current Medical Issues .2019;17(3):49-53
12) Khayat M ,Aldaqal S .Incidence and causes of intestinal obstruction in Saudi adults :tertiary care hospital study .Int Res J Medical Sci.2014;2;2350-2353