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Dr. Chandrashekaraiah K C
Associate Professor, Department of general surgery, Chamarajanagar Institute of Medical Sciences, Chamarajanagar, Karnataka, India

Dr. Chinnabovi
Senior Resident, Department of General Surgery, Chamarajanagar Institute of Medical Sciences, Chamarajanagar, Karnataka, India

Correspondence
Dr. Chandrashekaraiah KC
Associate Professor Department of General Surgery, Chamarajanagar Institute of Medical Sciences, Chamarajanagar, Karnataka, India

Clinical profile of intestinal obstruction: An observational study

Dr. Chandrashekaraiah K C and Dr. Chinnabovi

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Abstract
Background: Bowel obstruction is a surgical emergency, it is one of the common surgical encounter. Decision as whether to operate on the patient or to continue with conservative management as well as the timing of intervention rests upon the treating surgeon and his competence
Objectives: Is to describe etiology of intestinal obstruction, demographic pattern and mode of management.
Materials and Methods: Include patients treated in Chamarajanagar, presenting from July 2014 to December 2018. Sample size is 40 patients.
Results: obstructed hernias are the commonest cause of obstruction, males are commonly affected than females.
Conclusion: obstructed hernias are most common cause of intestinal obstruction in our study. Adhesions are second common cause.

Keywords: intestinal obstruction; sigmoid volvulus; intussusception

Introduction

Intestinal obstruction is one of the frequent surgical disorder in general surgical practice and most of the time it is an emergency. It can be mechanical (dynamic) or non mechanical (adynamic). Impairment to the ab-oral passage of intestinal contents can result from either mechanical obstruction to the bowel or even failure of normal intestinal motility in the absence of an obstructing lesion. Various mechanical and biochemical changes occurs inside the body of a patient with intestinal obstruction. There is fluid accumulation inside the bowel, third space fluid loss and electrolyte abnormalities.

Inspite of tremendous advances in medicine, bowel obstruction still remains a question of good clinical acumen. Bowel obstruction poses great dilemma in both diagnosis and management. Very often, The decision about whether to operate on the patient or to continue with the non-operative management finally rests upon the treating doctor. The surgeon's competence is also tested on deciding on when to go for intervention. The ultimate morbidity and mortality may finally depend on the timely decisions of the treating team.

In most countries, where abdominal operations are common, adhesions and bands form the most common causes of small intestinal obstruction: peritoneal adhesions are common after laparotomy and are exacerbated by intra-abdominal infection, ischaemia. Lower abdominal or pevic operations have a higher risk for bowel adhesion formation than upper abdominal procedures.

Adhesions are the common cause of obstruction other than adhesions causes of small bowel obstruction include obstructed hernias, stricture due to Tuberculosis, crohns disease, carcinoma, other rare causes of bowel obstruction include intussusception, bands, malrotation.

Adhesions are rare in large bowel obstruction, carcinoma colon is the commonest cause of colonic obstruction especially in western countries, sigmoid volvulus is another common cause, in developing countries.

It is useful to distinguish small bowel obstruction from large bowel obstruction. X-ray abdomen CT abdomen distinguishes the problem. Non ischaemic obstruction has good prognosis compared to ischaemic bowel obstruction. Hence the importance of timely intrevention before strangulation occurs. The purpose of this study is to evaluate various etiological factors, various clinical presentation, demographic profile and management of intestinal obstruction.

Materials and Methods

This study includes retrospective study of cases of intestinal obstruction treated in Chamarajanagar. Study period is July 2014 to December 2018.

Inclusion criteria: X-ray diagnosed cases of all intestinal obstruction, age more than 12 years, Mesenteric vascular Ischaemia are included in the study.

Exclusion criteria: Paralytic ileus Primary objective of the study is to analyse the etiological factors, demographic pattern as well as mode of intervention in these patients.

X-ray erect Abdomen was the common mode of diagnosis, next investigation was ultrasound scan. CT Abdomen was done in few cases. After admission resuscitation with intravenous crystalloids was done, circulatory status improved, urine output became normal. NG tube decompression was done, antibiotic prophylaxis was given, blood transfusions were done in anaemic and hypotensive patients, abdominal girth measured and bowel sounds monitored continuously.

Flatus tube decompression was done in two cases of sigmoid volvulus. Conservative management was done in 5 cases of post op adhesions. Study variables include name, age, gender, h/o previous surgeries, intra operative findings and histopathological findings.

Results

Out of 40 patients studied, 28 (70%) patients were males and 12 (30%) patients were females. Small bowel obstruction was seen 28 (70%) patients, large bowel obstruction was seen in 12 (30%) patients. Post-op adhesions were seen in 7 cases.

Table 1: Etiological factors in intestinal obstruction

Diagnosis	Number of cases	Percentage
Post –op adhesions	7	17.5%
Obstructed hernia	10	25%
Malignancy large bowel	6	15%
Volvulus sigmoid	6	15%
Stricture	5	12.5%
Intussusception	1	2.5%
Midgut volvulus	1	2.5%
Mesentric vascular occlusion	4	10%
Total	40	100%

Table 2: Age wise distibution of patients

Age group(year)	Number	Percentage (%)
12-30	5	12.5
31-40	6	15
41-50	9	22.5
51-60	10	25
>61	10	25
Total	40	100

Table 2 shows age distribution in the study population. majority of cases are above 50 years**.**

Table 3: Gender distribution

Diagnosis	Males	females
Adhesions	3	4
Hernia	8	2
Malignancy	3	3
Volvulus	5	1
Stricture	4	1
Mesentric vascular occlusion	3	1
Intussususception	1	0
Midgut volvulus	1	0
Total	28	12

Table 3 shows gender distribution of patients. 70% of the patients are males and 30% females.

Table 4: Distributicn according to mode of presentation

Mode of presentation	Number	Percentege%
Acute	26	65
Subacute	10	25
Chronic	4	10
Total	40	100

Table 4 shows mode of presentation. Majority presented acutely [65%]. 10 patients presented subacutely. 4 patients presented with chronicity.

Table 5: Relation of etiolgical factors with management

Causes of obstruction	management	
	Conservative	surgical
Adhesions	5	2
Obstructed Hernia	0	10
Malignancy	0	6
Sigmoid volvulus	2	4
Stricture	0	5
Intussusception	0	1
Midgut volvulus	0	1
Mesentric vascular occlusion	0	4
Total	7	33

Table 5 shows the relation between various etiological factors and their management whether conservative or surgical. 5 out of 7 adhesive obstructions managed conservatively [71.5%]. Two of sigmoid volvulus managed by flatus tube decompression, followed by elective sigmoid resection.

10 patients had obstructed hernia [25%] [8 inguinal, 1 umbilical and 1 insicional hernia] large bowel malignancy was seen in 6 patients[one in transverse colon,one in descending colon,3 in sigmoid colon, one in rectum]. Sigmoid volvulus was seen in 6 [15%] cases, out of these two were reduced by flatus tube, remaining four operated [sigmoid resection and colostomy].

Among adhesive obstruction 4 cases were following hysterectomy, remaining 3 cases are due to other surgeries. Three cases presented with abstruction in third post op week, all three managed conservatively. Another two post oparative adheshions managed consevatively. In Remaining two cases adhesiolysis was done.

Stricture was seen in 5 cases, 3 were tubercular, one non-specific chronic inflammation, Crohns Disease in one case. Intussusception due to lipoma in distal ileum which was causing ileocolic Intussusception. Lipoma excised by enterotomy. Midgut volvulus with a ladds band was seen in one case, ladds band released.

Mesentric vascular occlusion was seen in 4 cases. Small bowel resection and anastomosis was done in all cases. One patient died of post op sepsis, one patient devoloped low out put fissutula which heald in two weeks all three recovered without features of short bowel syndrome.

Table 6: Various Operative Procedures Undertaken and Results According to Etiological Factors

	Adhesiolysis	Resection Anastomosis	Band Lysis	colostomy	Hernia Reduction	Enterotomy	Lipoma Excision	Flatus Tube Decompression	Mortality	Fistula
Adhesions	2	-	-	-	-	-	-	-	-	-
Hernia	-	-	-	-	10	-	-	-	-	-
Malignancy	-	1	-	5	-	-	-	-	-	-
Volvulus	-	-	-	4	-	-	-	2	-	-
Stricture	-	5	-	-	-	-	-	-	-	-
Mesentric vascular Occlusion	-	4	-	-	-	-	-	-	1	1
Intrussusception	-	-	-	-	-	-	1	-	-	-
Midgut volvulus	-	-	1	-	-	-	-	-	-	-
Total	2	10	1	9	10	0	1	2	1	1

Discussion

Total of 40 cases were studied out of which obstructed hernias contribute to 25% cases. In many studies post op adheshions are the commonest cause of obstruction in the second common cause of obstruction in our study. 70% of causes are small bowel obstruction, 30% of cases are large bowel obstruction. Volvulus and malignancy contributing 50% each to large bowel obstruction. A study conducted by souvik adhikari *et al.* in eastern India showed that hernia was the most common cause of intestinal obstruction [1] According to the study by McEntee *et at*, adhesions formed the most important cause of intestinal obstruction in western population [2]. Statistics in this part shown that hernia contributed approximately 29% of cases to intestinal obstruction. As per majority of available studies, adhesions, incarcerated hernia and large bowel cancers contribute to the most frequent causes of bowel obstruction [3-5] In this study 70% are small bowel obstruction, 30% large bowel obsrtuction.

It is estimated that 80-90% bowel obstruction occurs in small bowel and 10-20% in large bowel [6] obstructed hernia are still remaining the most common causes of bowel stangulation and ischeamia. Since inguinal hernia is mostly seen among male patients, obstructed inguinal hernia is seen more among them [7] of the six malignancies causing intestinal obstruction, all are from large bowel, common in sigmoid colon [50%.]. Hysterectomy are the common cause of adhesive obsturuction in our study. Sigmoid volvulus and mesentric vascular ischaemia are the other common causes of intestinal obstruction in our study.

Out of six, two cases of sigmoid volvulus are managed by flatus tube decompression. Remaining four cases are managed by sigmoid resection and colostomy.

Mesentric vascular ishcaemia was seen in 4 [10%] cases, it is increasing as incidence of atherosclerosis is increasing.

Conclusion

To conclude, obstucted hernia are the common causes of bowel obstruction, and strangulation in devoloping countries. Sigmoid volvulus is also common in developing countries like India.

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