Original Research Article

A Clinico Pathological study of Acute Small Bowel Obstruction and its Management at Tertiary Care Hospital

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Abstract

Background: Intestinal obstruction remains as an important surgical emergency. The patients require early resuscitation and appropriate surgical management. This study was undertaken in to study the clinico pathology of small bowel obstruction and its management.**Material and methods:**A prospective study was undertaken in 60 patients of intestinal obstruction. The patients were subjected for complete history, physical examination, laboratory and radiological investigations. Surgical management was based on the etiology of obstruction following a prompt resuscitation of patients in emergency ward.**Results:**Majority of the cases in this study belonged to 41 – 50 years of age group and were females. More than half of the patients presented within 1 – 2 days of onset of symptoms. The patients also manifested with vomiting, Distension, Constipation, Fever and dehydration. Tenderness and guarding was present in more than half of the cases in this study. These clinical manifestations can be attributed to the strangulation which is common in patients presenting late to the hospital. About 23.3% had adhesions and bands as the main etiology for the intestinal obstruction followed by jejunal stricture and Ileal stricture. The inflammatory changes on histopathology were common. Wound infection was the common complication in 6.7% of the cases. **Conclusion:**This study concludes that, early diagnosis and prompt operative treatment with post operative treatment can reduce the mortality in intestinal obstruction cases.

Keywords: Intestinal obstruction, Resuscitation, Surgical management, etiology, Post operative complications.

Introduction

Intestinal obstruction is one of the common surgical emergency and the frequently encountered problem[1,2].The obstruction may be partial or complete which induces the mechanical impairment or complete arrest of the passage of the content through the intestine. The obstruction can occur in small (SBO) or large intestine (LBO) [3].The problem of obstruction may cause a significant amount of morbidity and mortality and increase the number of admissions to the emergency departments[4].The intestinal obstruction warrants an emergency intervention including a precise and quick diagnosis. The surgeons are concerned with strangulation, bowel ischemia, necrosis and perforation which make the diagnosis difficult. Early recognition of intestinal strangulation is important in patients with mechanical bowel obstruction to decide on emergency surgery or to allow safe non operative management of carefully selected patients[5,6].The patients with Intestinal obstruction presents with pain abdomen, vomiting, constipation and distension of abdomen. It needs to understand complete surgical anatomy, pathophysiology, symptoms and signs of obstruction and necessary investigations for diagnosis. The morbidity and mortality of intestinal obstruction can be reduced with better understanding of pathophysiology, improvement in diagnostic techniques, fluid and electrolyte balance and use of potent antibiotics[7]. Hence this study was undertaken in order to study the clincopathology and management of intestinal obstruction.

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Material and methods

A prospective study was conducted in department of General surgery of a tertiary care centre. The duration of the study was from January 2018 to December 2020. A total of 60 cases of intestinal obstruction admitted during the study period constituted the sample size. Clearance from institutional ethics committee was taken before the study was started. An informed consent was obtained from all patients before the study was started. The patients aged less than 18 years and patients with sub acute intestinal obstruction and paralytic ileus were excluded from the study. All the cases thus selected were subjected for complete history, physical examination, radiological and laboratory investigations. The cases were selected on the basis of these findings. All the cases were subjected for surgery after establishing diagnosis. The blood investigations included routine check up, blood grouping, blood urea, serum creatinine and serum electrolytes. The radiological investigations included plain X ray erect abdomen to detect fluid gas levels, ultrasound, CT scan abdomen in selected cases. Basic support was given immediately after admission including nasogastric decompression, catheterization with antibiotic prophylaxis. The patients showing improvement with the conservative treatment after observation of 24 hours were excluded from the study. The patients with acute obstruction were managed with appropriate surgical procedure. The patients were subjected for appropriate surgery with obtaining the specimens for histopathological examination. The patients were carefully monitored after operation and followed up till 6 months. The details thus obtained were recorded in a predesigned proforma and analyzed by using appropriate statistical tests.

Results

Table 1:Baseline characteristics of the study group

	Age	Frequency	Percentage
Age group	**18 – 30 years**	4	6.7
	31 – 40 years	15	25.0
	41 – 50 years	33	55.0
	51 – 60 years	6	10.0
	More than 60 years	2	3.3
Gender	**Male**	22	36.7
	Female	38	63.3

About 55.0% of the patients with intestinal obstruction belonged to 41 – 50 years of age group. Majority of the patients with intestinal obstruction were females.

Table 2:Clinical features of the study group

		Frequency	Percentage
Duration of symptoms	**1 – 2 days**	31	51.7
	2 – 5 days	15	25.0
	6 – 14 days	8	13.3
	15 and above	6	10.0
Symptoms	**Pain**	60	100.0
	Vomiting	41	68.3
	Distension	38	63.3
	Constipation	29	48.3
	Fever	20	33.3
	Dehydration	14	23.3
Clinical signs	**Tender**	41	68.3
	Guarding	35	58.3
	Rigidity	28	46.7
	Mass	14	23.3
Etiology	**Adynamic obstruction**	2	3.3
	Caecal volvulus	4	6.7
	Adhesions and bands	14	23.3
	Ileal stricture	7	11.7
	Ileocaecal TB mass	6	10.0
	Intussusception	3	5.0
	Jejunal stricture	13	21.7
	Obstructed inguinal hernia	4	6.7
	Rectosigmoid growth	5	8.3
	Stricture followed by perforation	2	3.3
Histopathological diagnosis	**Inflammatory**	38	63.3
	Malignancy	8	13.3
	Tuberculosis	14	23.3

More than half of the patients presented within 1 – 2 days after onset of symptoms. Pain was the common symptom followed by vomiting (68.3%), Distension (63.3%), Constipation (48.3%), Fever (33.3%) and dehydration (23.3%). Tenderness was present in 68.3% of the cases, guarding in 58.3% of the cases, rigidity in 46.7% of the cases and Mass in 23.3% of the cases. About 23.3% had adhesions and bands as the main etiology for the intestinal obstruction followed by jejunal stricture and Ileal stricture. The histopathological examination of the sampled has shown inflammatory signs in 63.3% of the cases, malignancy in 13.3% of the cases and tuberculosis in 23.3% of the cases.

Table 5. Post operative complications

Post operative complications	Frequency	Percentage
Nil	52	86.7
Present	8	13.3
Wound infection	4	6.7
Anastomosis leak	2	3.3
Respiratory infection	1	1.7
Death	1	1.7

No post operative complications were observed in 86.7% of the cases in this study. Wound infection was the common complication in 6.7% of the cases followed by anastomosis leak (3.3%), respiratory infection (1.7%) and death in 1 case.

Discussion

This study was mainly undertaken to study the clinicopathology of the intestinal obstruction in a tertiary health care setting. Intestinal obstruction is a common surgical emergency which requires immediate diagnosis and treatment.

Majority of the cases in this study belonged to 41 – 50 years of age group and were females. Studies Shulka S et al, Khan et al and Venugopal et al also noted that, the incidence of intestinal obstruction was higher in 35 – 55 years age group. The incidence of intestinal obstruction was higher in males in contrary to the findings of this study[8-10]More than half of the patients presented within 1 – 2 days of onset of symptoms. In a study by Shukla et al, more than half of the cases presented to the hospital in 2 – 5 days.[8] Pain was the common symptom. The patients also manifested with vomiting,

Distension, Constipation, Fever and dehydration. Shukla et al and Venugopal et al also observed similar findings. In mechanical large bowel obstruction, the pain is usually spaced farther apart in time and tend to be longer when compared to small bowel obstruction. Studies by Kuremu et al, Zubaidi et al and Chalya et al also noted that, most of the patients had colicky abdominal pain.

Tenderness and guarding was present in more than half of the cases in this study. These clinical manifestations can be attributed to the strangulation which is common in patients presenting late to the hospital. About 23.3% had adhesions and bands as the main etiology for the intestinal obstruction followed by jejunal stricture and Ileal stricture. Similar findings were also noted by Shukla et al, Khan et al and Venugopal et al.

The inflammatory changes on histopathology were common in 63.3% of the cases followed by malignancy and tuberculosis. In studies by Shukla et al, Khan et al and Venugopal et al inflammatory histopathological finding was common in most of the patients followed by malignancy and tuberculosis.

Wound infection was the common complication in 6.7% of the cases followed by anastomosis leak (3.3%), respiratory infection (1.7%) and death in 1 case. A study by Patil et al had shown that, wound gaping, fever, prolonged ileus and Septicaemia (Death) were the common post operative complications[11-14]

Conclusion

Intestinal obstruction remains as an important surgical emergency. Hence the patients must be resuscitated at an earliest point of time in order to prevent mortality along with correction of electrolytes. Early diagnosis and prompt operative treatment with post operative treatment can reduce the mortality in intestinal obstruction cases.

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