

# Frequency of Causes of Mechanical Bowel Obstruction

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## ABSTRACT

**Objective:** To find out the frequency of different causes of mechanical bowel obstruction.

**Study Design:** Observational / descriptive study

**Place and Duration of Study:** This study was carried out the Surgical B Unit of MTI, Lady Reading Hospital Peshawar from March 2015 to December 2015.

**Patients and Methods:** All the patients presented with signs and symptoms of bowel obstruction were included in the study while those with non mechanical bowel obstruction like paralytic ileus and peritonitis were excluded from the study. Patient's demographic features and all the data were recorded.

**Results:** Total 50 patients were included in the study. The age range of the patient was 15-80 years with mean age was  $42.98 \pm 17.60$  years. Thirty seven 74% patients were male and 13 (26%) were female constituting male to female ratio of 2.84:1. Out of 50 patients operated for mechanical bowel obstruction, commonest cause of bowel obstruction was post operative adhesions which accounted for 17 (34%) followed by sigmoid volvulus in 10 (20%) cases and intestinal tuberculosis in 8 (16%) patients.

**Conclusion:** Adhesions and sigmoid volvulus were the common causes of intestinal obstruction. Although patients presenting with sub acute intestinal obstruction can be treated conservatively initially, should they develop signs and symptoms of gut ischemia, when conservative treatment fails or in most cases of acute intestinal obstruction immediate surgical exploration is still required.

**Key words:** Bowel obstruction, Mechanical, Adhesions, Sigmoid volvulus

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## INTRODUCTION

Intestinal obstruction can be defined as partial or complete blockage to the transit of intestinal contents.<sup>1</sup> It is a frequent and serious surgical condition which carries high morbidity and mortality without prompt diagnoses and subsequent management. It accounts for 20% of admission to surgical ward according to a study.<sup>2</sup> There are two main types of Intestinal obstruction that is Mechanical and Non mechanical.<sup>3</sup> The pathognomonic features of bowel obstruction are pain abdomen, vomiting, absolute or relative constipation, abdominal distension.<sup>4</sup> Patient with intestinal obstruction are often severely dehydrated and in shock therefore, need frequent monitoring of vital signs, fluid and electrolytes balance and measurement of abdominal girth for distension and clinical progress to determine the need for surgical intervention in case patient condition deteriorates in terms of pyrexia, increasing distension and abdominal guarding and

rigidity which signifies impending bowel ischaemia or perforation.<sup>5</sup> Thus key to success in the management of such cases as adequate fluid resuscitation, maintaining electrolytes balance, early diagnoses and timely surgical intervention if needed.<sup>6</sup>

Common etiologies of bowel obstruction mentioned in literature can be classified into congenital for example various bands and acquired which include post operative or tuberculous or neoplastic adhesions, obstructed hernias, tumors, foreign bodies, inflammatory bowel disease, fecal impaction and volvulus.<sup>5,7,8</sup> Throughout the world the causes of intestinal obstruction vary according to geographic distribution of patients.<sup>9</sup> As already mentioned earlier that etiological spectrum of mechanical bowel obstruction is subjected to variations according to geographical area of distribution of patients therefore this study was designed with the objective of finding out frequency of different causes of intestinal obstruction in our set up and to devise possible preventive measures for decreasing the incidence of this condition.

## MATERIALS AND METHODS

This prospective and descriptive study was conducted in surgical B Unit of MTI, Lady Reading Hospital Peshawar from March 2015 to December 2015. All the patients above the age of 14 years presented with signs

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and symptoms of bowel obstruction were included in the study while those with non mechanical bowel obstruction like paralytic ileus and peritonitis were excluded from the study. The diagnosis of intestinal obstruction was made on the basis of detailed history, physical examination, and imaging investigations like X-ray abdomen erect and supine and ultra sound scan of the abdomen. Other routine baseline investigations like those for GA fitness and to exclude non mechanical cause of intestinal obstruction and for the management of intestinal. The baseline investigations included were full blood count, serum electrolytes, blood urea, serum creatinine, X-ray chest and ECG. Almost all the patients under laparotomy after taking written informed consent and resuscitation. Surgical exploration was performed in those cases who did not respond to conservative treatment and where mechanical cause of intestinal obstruction was suspected. Biopsy was taken where ever indicated for tissue diagnoses. Patients demographic features and all the data were recorded on predesigned proforma and were analysed through SPSS version 16.0.

## RESULTS

**Table No.1: Demographic information of the patients**

Variable	No.	%age
<b>Age (years)</b>		
15 – 40	28	56.0
41 – 60	15	30.0
61 – 80	7	14.0
<b>Gender</b>		
Male	37	74.0
Female	13	13.0

**Table No.2: Frequency of causes of bowel obstruction**

Cause of bowel obstruction	No.	%age
Adhesions	17	34.0
Intraluminal Gossypiboma	1	2.0
Congenital band between Mickel diverticulum and umbilicus	1	2.0
Intestinal Tuberculosis	8	16.0
Intessuception	1	2.0
Sigmoid volvulus	10	20.0
Caecal volvulus	2	4.0
Rectal growth (cancer)	3	6.0
Obstructed hernia	5	10.0
Carcinomatosis peritonei	1	2.0
Transverse colon volvulus	1	2.0

A total of 50 patients with mechanical bowel obstruction were managed during the mentioned study period. The age range of the patient was 15-80 years. Mean age of the patient was 42.98±17.60 years. Thirty

seven 74% patients were male and 13 (26%) were female constituting male to female ratio of 2.84:1 (Table 1). Commonest cause of bowel obstruction in this series was post operative adhesions which accounted for 17 (34%) followed by sigmoid volulus in 10 (20%) cases intestinal tuberculosis in 8 (16%) patients details of causes of intestinal obstruction (Table 2).

## DISCUSSION

Bowel obstruction is common surgical emergency which carries significant morbidity and mortality and has got wide range of etiological spectrum. In our study the mean age of the patients was 42.98 years which corresponds to that mentioned in literature<sup>1</sup>. There is male predominance in our series which is also in accordance with other studies.<sup>10-12</sup>

In our study the main cause of mechanical bowel obstruction was adhesions followed by sigmoid volvulus and tuberculosis was the third most common cause. Two other studies have also shown that adhesions were the common reasons for intestinal obstruction.<sup>5,10</sup> In contrast to our study, studies by Zahid et al<sup>13</sup> and Naseer et al<sup>2</sup> have shown that intestinal tuberculosis was the commonest cause of mechanical bowel obstruction. As mentioned earlier that this variation in the results could be due to different patterns of diseases which vary geographically. Some studies also shows that strangulated hernias are the common cause of obstruction.<sup>1,14,15</sup>

Our results show that sigmoid volvulus is the second common cause which is different from other studies.<sup>1,2-15</sup> The reason behind could be the fact that sigmoid volvulus is much more common in this part of the world as compared to the developing world.<sup>16</sup> Literature shows that even in Pakistan the sigmoid volvulus is most common in pathans population.<sup>17</sup>

## CONCLUSION

Bowel obstruction is not uncommon surgical emergency. In our set up adhesions and sigmoid volvulus were the common causes of intestinal obstruction. Although patients presenting with sub acute intestinal obstruction can be treated conservatively initially, should they develop signs and symptoms of gut ischemia, when conservative treatment fails or in most cases of acute intestinal obstruction immediate surgical exploration is still required. There is a famous saying that 'Never let the sun go down on a closed loop obstruction'.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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