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A study of clinical spectrum of large bowel obstruction

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Abstract

Background: A large bowel (large intestine) obstruction is a blockage that keeps gas or stool from passing through the body. An intestinal blockage can occur anywhere in the large intestine. The large bowel obstruction may block the bowel completely or partially. A blocked intestine may rupture, causing a life-threatening infection. This study is intended to throw light upon the clinical features of large bowel obstruction.

Aims and Objectives: To describe the clinical spectrum of large bowel obstruction

Materials and Methods: The present study was a prospective study, conducted on 30 inpatients with clinical features suggestive of large bowel obstruction.

Results: The ages of the patient are in the range of 20-70years with common age group being 51-65 years, mean age being 56,33years. Incidence in male (66.6%) was more as compared to female population (33.33%). The clinical features of pain abdomen (80%), vomiting (40%), distension (93.3%) and constipation (100%) were main symptoms in the study. Tenderness, guarding, rigidity and shock are cardinal features of strangulated obstruction. The patients presented with above symptoms around 3-10days prior to diagnosis. The most common cause of obstruction was malignancy and this constituted about 73.33% of cases of the study group. The second most common cause was volvulus constituting 26.66% of cases. The obstructing lesions were more common on the left side (76.66%) compared to right side (23.33%).

Conclusion: Large bowel obstruction remains still an important surgical emergency that requires early identification and intervention.

Keywords: Large bowel obstruction, Causes, Clinical Spectrum

Introduction

A large bowel (large intestine) obstruction is a blockage that keeps gas or stool from passing through the body. An intestinal blockage can occur anywhere in the large intestine. The large bowel obstruction may block the bowel completely or partially. A blocked intestine may rupture, causing a life-threatening infection. Large bowel obstruction is an emergency condition that requires early identification and intervention. The etiology of this condition is age dependent and it can result from either mechanical interruption of the flow of intestinal contents or by dilatation of colon in the absence of an anatomic lesion. The challenges in managing this condition are distinguishing colonic obstruction from ileus and ruling out non surgical causes and determining the best surgical management. The morbidity and mortality often are related to the surgical procedure used to relieve the colonic obstruction and, in the long term, to the underlying disease that caused the obstruction ^[1]. Large bowel obstruction is still a life threatening condition in spite of advances in surgical treatment and critically ill patients care ^[2]. This study is intended to throw light upon the clinical features of large bowel obstruction.

Aims and Objectives

To study the clinical spectrum of large bowel obstruction.

Materials and Methods

Methods of Collection of Data

Data collected by meticulous history taking, clinical examination, appropriate radiological investigations, The patients will be followed up postoperatively for 6 weeks.

A. Study Design: A Prospective study

B. Study Period: Nov 2016 to May 2018

C. Place of Study: Azeezia Institute of Medical Sciences and Research, Meeyannoor, Kollam,

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D. Sample Size: 30

E. Inclusion Criteria:

1. Patients presenting with features of large bowel obstruction
2. Patients who have given written informed consent

F. Exclusion Criteria:

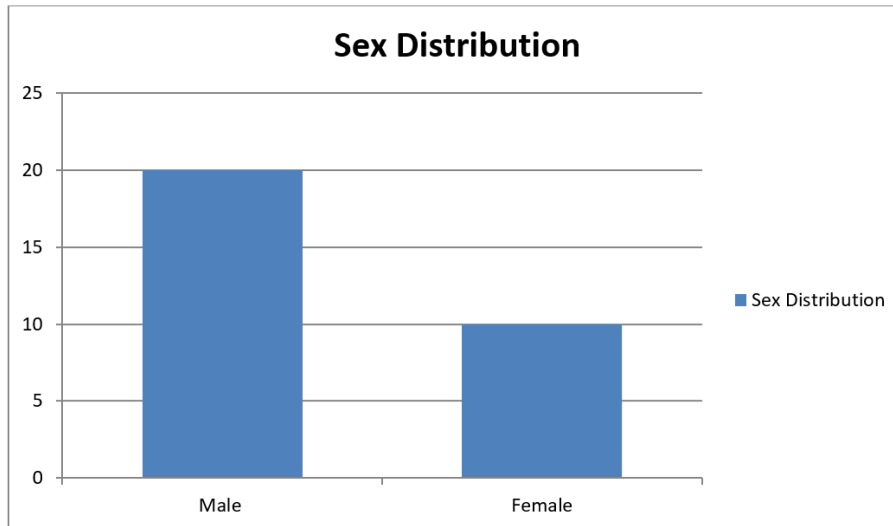
1. Age less than 16 years
2. Previous abdominal surgeries
3. Immunocompromised status
4. Hypoalbuminaemia

5. Patients with pseudoobstruction

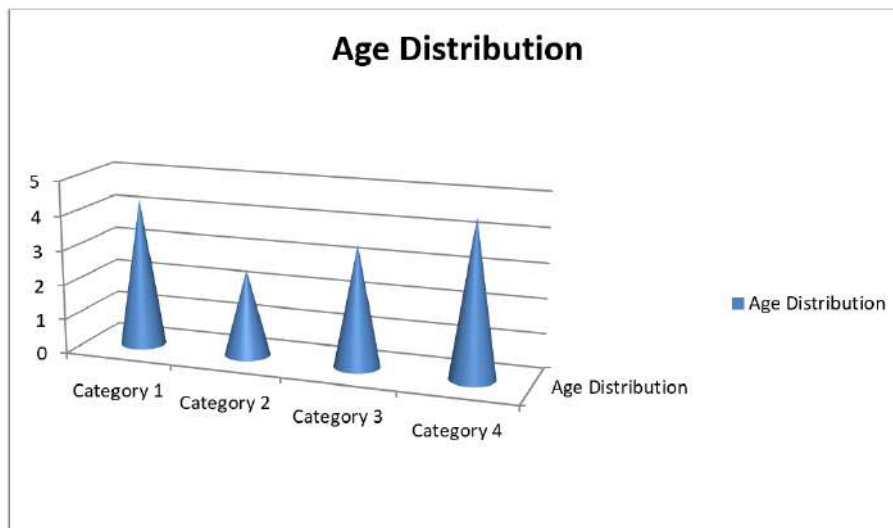
G. Statistical Analysis:

Descriptive statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean (SD) and results on categorical measurements are presented in number (%). Microsoft word and excel have been used to generate graphs, tables etc.

Results



Graph 1: Gender Distribution



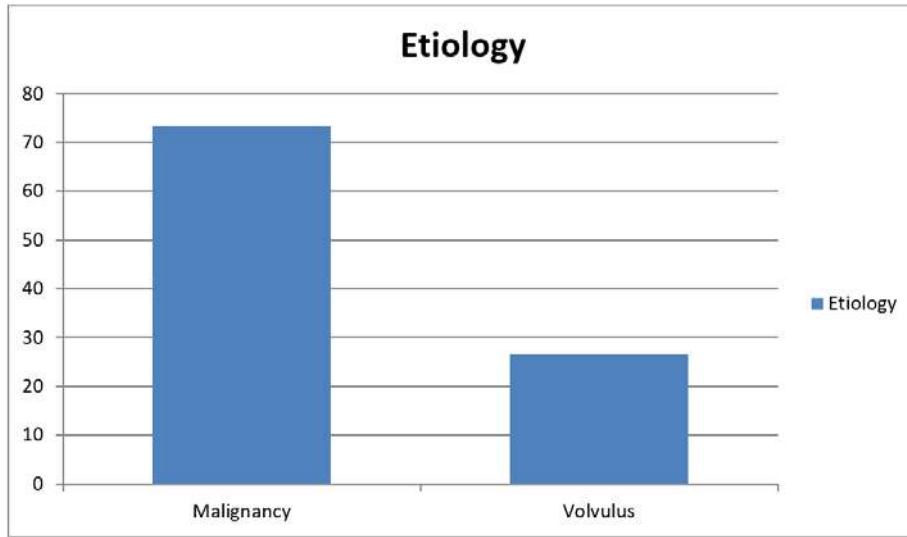
Graph 2: Age Distribution

Table 1: Clinical Presentation

Presentation	Number	Percentage
Pain abdomen	24	80
Vomiting	12	40
Distension	28	93.33
Constipation	30	100
Mass PR	4	13.33

Table 2: Duration of symptom

Duration (days)	Number	Percentage
1-2	1	3.33
3-5	12	40
6-10	17	56.66



Graph 3: Etiology

Discussion

Ancients knew the knowledge of acute intestinal obstruction and its poor outlook. One of the earliest references of disease of gastrointestinal tract appears in code Hammurabi written around 2200 BC. In 6th century Sushruta wrote oldest known descriptions of bowel surgery. Hippocrates mentioned about intestinal obstruction and mentions the treatment of ileus with enemas and inflation of rectum in 460 BC. The earliest operation recorded was performed by Proxogorus in 350 BC who created enterocutaneous fistula to relieve the obstruction. Fabricius d'Aquopendente in 12th century described a procedure of intestinal repair using end to end anastomosis. Sanctus in 16th century treated intestinal obstruction by giving metallic mercury to patients. Large bowel obstruction remains an important surgical emergency in the surgical field. The mortality has reduced significantly by early diagnosis and instituting the treatment at the earliest. 1-4% of mortality in emergency surgeries is contributed by acute intestinal obstruction [3]. The advancement in understanding the anatomy, physiology, fluid and electrolyte balance along with intensive care unit, mortality has been reduced consistently. The associated medical problems and advanced age carries poor prognosis. In order to determine the etiology, management, morbidity and mortality I undertook a prospective study on 30 patients presenting with clinical features of large bowel obstruction at Victoria Hospital and Bowring and Lady Curzon Hospital attached to Bangalore Medical College and Research Institute, Bangalore.

1. Gender distribution: In our study the incidence of large bowel obstruction in males was 20 (66.66%) and that of females was 10 (33.33%) as shown in table 1 and figure 1. Male to female ratio is 2:1. The male preponderance is consistent with series reported from other parts of the world. Fuzan [4] and Lee [5] reported 2:1 male to female ratio in their study of intestinal obstruction. Budharaj [6] reported in his study a ratio of 4:1 between males and females. Sule A Z *et al.* [7] reported male to female ratio of 3:1 in their study.
2. Age distribution: The age distribution in our series ranges from 20-70 years with mean age of 56.33 years. Maximum incidence was seen between age group 51-65 years (56.66%). Fuzan [4] reported mean age of 56 years. Sule A Z *et al.* [7], study showed ages of the patient were in the range of 20-80 years, with median age of 49 years.
3. Clinical presentation of patients: Out of the 30 cases, 24 presented with pain abdomen (80%), 12 with vomiting

(40%), 28 with abdominal distension (93.3%), 30 with constipation (100%) [4], with mass PR (13.3%). Sule A Z *et al.* [7] conducted a prospective study on 50 patients with large bowel obstruction. In their study 96% patients had pain abdomen, 92% had abdominal distension, 94% had constipation and 66% had vomiting.

4. Duration of symptoms: In our study about 56.6% of cases had symptoms of LBO like pain abdomen, constipation, abdominal distension, vomiting for 6-10 days, 40% cases had symptoms for 3-5 days, 3.33% cases had symptoms for 1-2 days. Patients with sigmoid volvulus had symptoms lasting for shorter duration compared to patients with malignancy. Sule A Z *et al.* [7] states that patients who had sigmoid volvulus described symptoms lasting a week or less, while those with large bowel cancer were ill for about a month before becoming suddenly obstructed.
5. Etiology of large bowel obstruction: In our study of 30 cases, 22 had obstruction due to malignancy of the large bowel which constituted 73.33% of cases and rest 8 (26.66%) had obstruction due to volvulus. Buechter *et al.* [4] in their review of 127 cases stated that carcinoma continues to account for the overwhelming number of cases, and there has been no appreciable change in the site of obstruction or age groups affected. Bielecki K and Kaminski P³ studied that patients with large bowel obstruction accounted for 12.6% of 780 patients treated because of primary colorectal malignancy and 6.6% of 486 patients treated because of benign diseases of large bowel.
6. Incidence of left and right sided lesions causing intestinal obstruction: The left-sided lesions defined as obstruction in or distal to the splenic flexure. Out of 30 cases, 23 cases of obstruction were due to left sided lesions constituting 76.66% of cases and 7 cases (23.33%) were due to right sided lesions. Bielecki K and Kaminski P³ studied that lesion causing obstruction was located in right half of colon in 43 (33.1%) patients and in 73 (66.9%) patients in left colon. Thompson in his series recorded the incidence of the obstructing carcinoma of the right colon equals 26% and left colon 69%. Hsu T C managed a total number of 214 cases out of which causes of colonic obstruction found was 71 (34.8%) in right colon, 127 in the left colon of which sigmoid colon obstruction was found in 54 (42.5%) cases.

Conclusion

Large bowel obstruction remains still an important surgical emergency that requires early identification and intervention. The etiology of this condition is age dependent and it can result from either mechanical interruption of the flow of intestinal contents or by dilatation of colon in the absence of an anatomic lesion.

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