

Analysis Of The Clinical Features, Management And Outcome Of Acute Intestinal Obstruction

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Abstract

Mortality And Morbidity Increase Markedly For Acute Intestinal Obstruction With Late Presentation. So, It Demands An Increased Awareness Regarding The Danger Of Delaying The Treatment. This Study Aims To Explore The Clinical Manifestations, Management, And Outcome Of Acute Intestinal Obstruction Patients.

We Carried Out The Study In The Department Of Surgery, Combined Military Hospital, Chattogram Cantonment, Bangladesh. A Total Of 50 Patients Were Prospectively Studied, Evaluated, And Managed. Patients Of Acute Intestinal Obstruction Attended In Department Of Surgery, Combined Military Hospital Chattogram (Cmh Chattogram). The Patient Was Divided Into Six Age Groups. A Maximum Of 18(36%) Was Found In 51-60 Years, And The Mean(\pm Sd) Age Of The Study Patients Was 39.9 \pm 16 Years With A Range From 1-65 Years. In The Sex Distribution Of The Study Patients, It Was Observed That 41 (82%) Were Male And 09 (18%) Were Female. Most Patients, 20(40%) Reported In The Hospital With Two Days History Of Clinical Features.

In Presenting Complaints, It Was Observed That Sudden Onset Was The Presenting Feature In Most 42 (84%) Of The Study Patients. 21(42%) Of The Patients Had Lower Abdominal Pain. All Of The Patients (100%) Had Abdominal Distension. Only 6(12%) Had Bleeding Per Rectum Including 3(6%) Intussusceptions And 3(6%) Recto Sigmoid Growth.

Acute Intestinal Obstruction Is One Of The Most Typical Surgical Emergencies Worldwide. A Large Proportion Of Patients With Acute Intestinal Obstruction Do Not Receive Appropriate Treatment Due To Late Clinical Diagnosis And Management.

Keywords: Acute Intestinal Obstruction, Operative Treatment, Preoperative Complications

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I. INTRODUCTION

Intestinal obstruction is a pathology that results in intestinal obstruction and significantly impairs or completely stops the passage of materials through the intestine. Cramps, vomiting, constipation, and lack of flatus are among the symptoms¹. Markogiannakis et al. (2007)² analyzed the clinical presentation, management, and outcome of patients with acute mechanical bowel obstruction, the etiology of obstruction, and the incidence and causes of bowel ischemia, necrosis, and perforation—this prospective observational study of all adult patients admitted with acute mechanical bowel obstruction between 2001 and 2002. A total of 150 consecutive patients were included in the survey; 76% presented with small bowel and 24% presented with large bowel obstruction. The influence of treatment delay on the frequency of death, complications, and strangulation, as well as on the length of postoperative hospital stay, has been analyzed in several papers. Play forth et al. (2003)³ found a significant correlation between mortality and morbidity after operations for SBO and the time from onset of symptoms to hospitalization and the in-hospital delay. Several studies describe a delay in presentation and/or treatment as a major prognostic factor for patient outcome. G.L Narayana et al. (2015)⁴ reported in a study that 70% of the cases reported after 48 hours in acute small bowel obstruction, where the death rate was as high as 25%, excluding malignant conditions which present with a longer history. 30% of cases who reported after less than 48 hours had the death rate of 9%, showing the importance of immediate surgical intervention. Except in cases of injuries, in all the other cases, a minimum of 36 hours was the time before seeking medical advice. When

the patient was resuscitated well preoperatively with gastric decompression, intravenous fluids, and antibiotics, the time delay of a few hours has not been observed to increase the mortality. Chen et al. (2008)⁵ figure out the etiological factors and overall mortality of patients with acute intestinal obstruction and explore the reasonable period of conservative therapy before operation. Medical records of all the patients with acute intestinal obstruction admitted to West China Hospital from 1995 to 2002 were retrospectively reviewed. The etiology of the obstruction was categorized, and the correlation of mortality and the time interval between conservative therapy and operation was analyzed. There were 705 patients with acute intestinal obstruction included. 71.1% of the obstruction lesion was located in the small bowel, and 82.6% of the patients experienced simple obstruction. The most frequent cause was adhesions (62%), and the next was neoplasm (23.7%). There 57.6% of patients underwent surgical treatment. The overall mortality rate was 1.6%. The intestinal necrosis rate was increased gradually with the prolongation of the time interval between conservative therapy and operation, and the death might occur 24 hours after strangulation. The epidemiological transition to adhesive obstruction still exists in China, similar to that in Western countries. In their experience, nearly half of the patients with simple obstruction may achieve palliation by conservative therapy. Surgical intervention is indicated for patients with prolonged and non-palliated simple obstruction or strangulation disease within the first 24 hours.

II. METHODS

From March to March 2022-2023, a prospective observational study was conducted at the Department of Surgery at the Combined Military Hospital in Chattogram, Bangladesh. Patients who complained of pain, abdominal distension, vomiting, and constipation and visited the departments of surgery at CMH Chattogram were the subjects of a prospective observational study. The standard protocol for managing complications was followed.

The sample was drawn from all individuals who required surgery for acute intestinal obstruction. Finally, participants in this study were those who had provided written, informed consent. Under the inclusion criteria, patients who met clinical symptoms, laboratory tests, and imaging studies for acute intestinal obstruction. Patients who refused to follow the regimen were considered under the exclusion criteria.

All data collection tools were pretested. The investigator himself collected the data. Data were shown to the corresponding guide weekly for feedback and necessary correction. The computer-based program Statistical Package analyzed data for the Social Sciences for Windows version 12.0 (SPSS, Chicago, Illinois, USA). Presentation of the result was done by tables and graphs where applicable.

The CMH Chattogram Research Committee granted their approval, which was ethical permission to use the data collected from the CMH Chattogram's Surgery Department. The patient's or the patient's legal guardian's written informed permission was obtained for this study. They were informed of the study's goals and objectives before giving their consent. The privacy of the patient shall be strictly upheld. The patients' names, residences, and contact information won't be made public.

III. RESULTS

The patients were divided into six age groups. A maximum of 18(36%) was found in 51-60 years, and the mean(\pm SD) age of the study patients was 39.9 \pm 16 years with a range from 1-65 years. Besides, 41 (82%) were male, and 09 (18%) were female, so the male-female ratio was 4.1:1 in the whole study.

Age	Number of Patients	Percentage
≤ 21	6	12
21-30	2	4
31-40	8	16
41-50	12	24
51-60	18	36
≥ 60	4	8
Sex	Number of Patients	Percentage
Male	41	82
Female	9	18

Table 1: Age and Sex distribution of the study patients(n=50)

The complaints of the study patients observed where sudden onset was the presenting feature in most 42(84%) of the study patients. Most 21(42%) of the patients had lower abdominal pain. All of the patients (100%)

had abdominal distension. Only 06(12%) had bleeding per rectum including 3(6%) intussusceptions and 3(6%) recto sigmoid growth.

Complaints	Number of Patients	Percentage
Onset		
Sudden	42	84
Insidious	8	16
Site of abdominal pain		
Central abdominal pain	16	32
Lower abdominal pain	21	42
Upper abdominal pain	4	8
Diffuse abdominal pain	9	18
Abdominal distension		
Present	50	100
Absent	0	0
Bleeding per Rectum		
Present	6	12
Absent	44	88

Table 2: Distribution of the study patients according to clinical presentation on admission (n=50)
 Majority of the patients 20(40%) reported in hospital with days history of clinical features.
 Mean \pm SD 2.3 \pm 1.3
 Range (min-max) (1-7)

Table 3: Timing of reporting in hospital with clinical presentation

Duration (days)	Number of Patients	Percentage
Within 1 day	11	22
2 days	20	40
3 days	12	24
\geq 4 days	7	14

48 (96%) of the study patients recovered and only 2 (4%) were deceased.

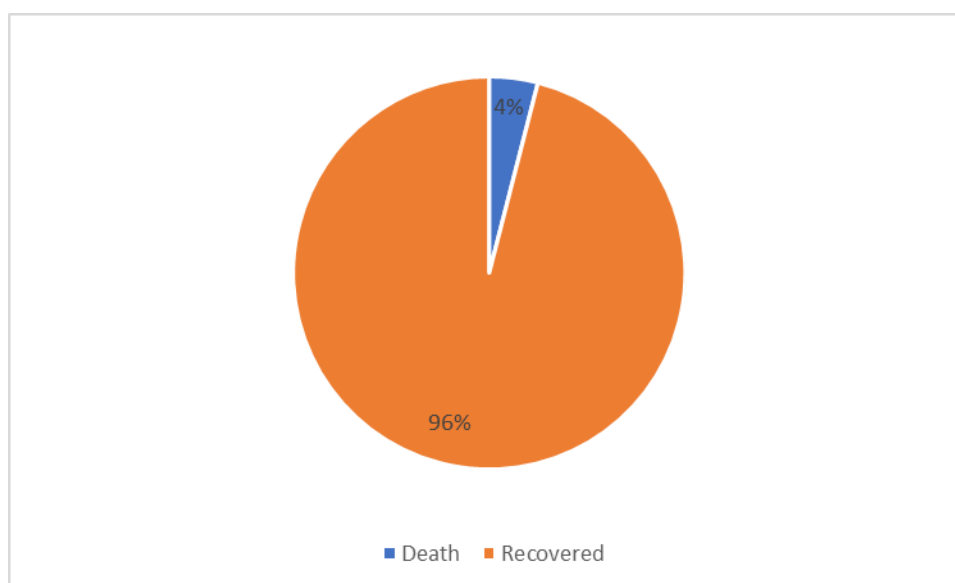


Figure 1: Pie graph showing distribution of the study patients according to mortality (n=50).

IV. DISCUSSION

This prospective observational study was carried out with an aim to evaluate factors influencing delay in operative treatment and to study the effects of delay in operative treatment in acute intestinal obstruction. A total of 50 admitted patients undergoing surgical management for acute intestinal obstruction with age ranging from 1 to 65 years were included in this study, in the department of surgery CMH, Chattogram during March 2022 to March 2023. The present study findings were discussed and compared with previously published related studies. In this current study it was observed that the mean(\pm SD) age was 39.9 \pm 16 years with range from 1-65 years and more than one third (36%) patients were in 6th decade. Markogiannakis et al (2007)² have shown the mean age 63.8 \pm 1.3 years with range from 16-98 years, which are higher with the current study, this may be due to increased life expectancy in the study patients. Fevang et al (2003)⁶ reported that high age is one of the factors associated with treatment delay, knowing that old patients are high risk patients for developing complications. In this present study it was observed that 82% patients were male and 18% female. Male female ratio was 4.5:1. These findings correlate well with the male predominance reported by Regland et al (1971)⁷ and Buchter et al (1988)⁸ while studies conducted by Nickell (1984)⁹ and Loeffler (1964)¹⁰ reported female predominance. In another study Markogiannakis et al (2007)² found male 40% and female 60%. In this present series it was observed that most of the patient 20(40%) has been admitted in hospital with 2 days history of symptoms, 12(24%) has been admitted with 3 days history of symptoms, 11(22%) patients with 1 day and 7(14%) patients with more than 4 days history of symptoms, consequently the evaluation and further management was delayed. In this present series it was observed that most (84%) of the study patients had sudden onset of presentation. Most of the patient (42%) had lower abdominal pain and almost one third patient (32%) had central abdominal pain. Besides all of the patients had abdominal distension and 12% had bleeding per rectum. Rasool et al (2009)¹¹ have shown abdominal pain in 92% cases followed by constipation in 80% and bleeding per rectum in 11% cases. Abdominal distension was seen in all patients. Markogiannakis et al (2007)² found abdominal distension in 65.3%, colicky abdominal pain 74%, continuous abdominal pain 14.6%, Cheadle et al (1988)¹² reported abdominal pain in 92%, vomiting 82% and abdominal distension 59% as the most frequent symptoms. Perea et al (2004)¹³ prospectively studied 100 patients with adhesive small bowel obstruction and found that the presenting symptoms were vomiting 77%, colicky abdominal pain 68%, absence of flatus and/or feces 52% and constant pain 12% whereas abdominal distension constituted the most frequent clinical sign with a prevalence of 56%. In this current series it was observed that 20% patients had previous history of abdominal operation. Recurrent operation influence mortality and complications.

V. CONCLUSION

If anyone experiences significant abdominal pain or other intestinal obstruction symptoms, they should seek immediate medical attention due to the dangerous problems that can arise. Resuscitation, correction of electrolyte imbalance as well as early diagnosis should be considered simultaneously for better outcome.

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