

A Study on Acute Intestinal Obstruction from a Tertiary Health Care Unit – Surgical Prospective

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Received: 11-11-2023 / Revised: 12-12-2023 / Accepted: 23-01-2024

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Conflict of interest: Nil

Abstract

Introduction: Despite being a prevalent surgical emergency, the management of acute intestinal obstruction (AIO) remains challenging. This study aimed to investigate outcome in the management of AIO.

Methods: It was a prospective study conducted in the government Medical College, Rajamahendravaram. Study was conducted between January to April 2023. Study protocol was approved by the institutional ethics committee. Informed written consent was taken from all the participants. Individuals ≥ 18 years, both gender with signs and symptoms of AIO those were admitted in the general surgery department were included in the study. Paediatric age group, non-cooperative individuals were not considered in this research; those with acute abdomen having perforation peritonitis, pancreatitis, adynamic ileus, enterocolitis and ascites were also not considered. After admission, all the study members with provisional diagnosis of AIO were evaluated clinically and findings were recorded. The treatment strategy followed as per the guidelines. Patients presenting with clear signs of acute intestinal obstruction underwent optimization and immediate Emergency Exploratory Laparotomy. The choice of the operative procedure was determined by adhering to surgical principles that aligned with the specific findings observed during the surgery. Simple descriptive statistics like mean and percentage were used for analysis.

Results: Total 50 members were included, abdominal pain was complained by all. Age wise majority (34%; 17) were in 38 – 47 years, mean age was 42.21 ± 9.01 . Male female ratio was 4. Small bowel obstruction was the leading (62%) followed by large bowel obstruction (24%) and both (14%). Majority (68%; 34) were treated surgically and the rest by conservatively.

Conclusion: For individuals with AIO, timely diagnosis, effective preoperative hydration, swift diagnostic tests, and early surgical intervention have been demonstrated to enhance survival rates.

Keywords: Intestine, Acute, Study, Member.

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Introduction

Despite being a prevalent surgical emergency, the management of acute intestinal obstruction (AIO) remains challenging, with notable morbidity and mortality. [1] The etiology of AIO varies not only among countries but also within different regions of the same country. Adhesive obstruction has been the predominant cause in Western countries since the end of the last century, contrasting with obstructed hernias persisting as the primary cause in developing nations. [2]

Furthermore, AIO is categorized based on various factors, including presentation time, duration of obstruction, extent of obstruction, and type of obstruction; however, the latter two are intricate.

Studies have consistently identified obstructed strangulated hernias as the leading cause of AIO. [1, 3] Notably, there has been an observed shift in the etiology of AIO in developing countries over the past few years. While there is a wealth of literature on intestinal obstruction (IO) from Western countries, publications from the developing world are notably scarce. [4]

Therefore, this study aimed to investigate the diverse causes and methods of presentation associated with intestinal blockage. It sought to evaluate the significance of different indicators of obstruction severity, with the goal of enhancing early recognition, diagnosis, and prompt abdominal exploration.

Methods:

It was a prospective study conducted in the government Medical College, Rajamahendravaram. Study was conducted between January to April 2023. Study protocol was approved by the institutional ethics committee. Informed written consent was taken from all the participants. Individuals ≥ 18 years, both gender with signs and symptoms of AIO those were admitted in the general surgery department were included in the study. Paediatric age group, non-cooperative individuals were not considered in this research; those with acute abdomen having perforation peritonitis, pancreatitis, adynamic ileus, enterocolitis and ascites were also not considered.

After admission, all the study members with provisional diagnosis of AIO were evaluated clinically and findings were recorded in the study proforma. The treatment strategy encompassed both conservative management and operative emergency laparotomy. Patients exhibiting normal hemodynamic status, mild abdominal signs, and few air-fluid levels underwent conservative treatment as per the guidelines. Regular evaluations, occurring every 8 hours, were conducted to monitor clinical progression. The treatment plan was adapted based on the evolving symptoms and signs. Serial X-ray abdomen scans were performed if clinically indicated, aiming to track the progression or regression of air-fluid levels. Patients showing favourable responses

within 24 to 48 hours were successfully managed conservatively.

Patients presenting with clear signs of acute intestinal obstruction underwent optimization and immediate Emergency Exploratory Laparotomy. The choice of the operative procedure was determined by adhering to surgical principles that aligned with the specific findings observed during the surgery.

Statistical Analysis: Simple descriptive statistics like mean and percentage were used for analysis. Data was analysed using SPSS version 21. P value < 0.05 was considered significant.

Results:

Total 50 members were included in this research. Abdominal pain was complained by all the study members. Age wise majority (34%; 17) were in 38 – 47 years group and minimum (10%; 5) in ≥ 58 years group (Table 1). The mean age was 42.21 ± 9.01 . Gender wise 80% (40) were male and the male female ratio was 4. When the obstruction pattern was considered, small bowel obstruction (SBO) was the leading (62%; 31) followed by large bowel obstruction (LBO) (24%; 12) and both (14%; 7). Majority (68%; 34) were treated surgically and the rest by conservatively. In the surgically treated members, majority (28; 56%) were recovered without any complications. Followed by this wound infection was (4; 8%), death (1; 2%) and sepsis (1; 2%).

Table 1: Age wise distribution of study participants.

Age	Number	%
18 – 27	8	16
28 – 37	12	24
38 – 47	17	34
48 – 57	8	16
≥ 58	5	10
Total	50	100

Discussion

IO constitutes a considerable source of morbidity and financial burden in hospitals globally, playing a significant role in admissions to emergency surgery departments. Timely identification of IO, proficient surgical intervention, precise surgical techniques, and vigilant postoperative care collectively contribute to a positive outcome. [5]

In the current study, 42.21 ± 9.01 years was the mean age of the study members and majority were between 38 – 47 years group (Table 1). Usually this age group involved more in outdoor activity for job and so on; irregular and improper food habits are very common in this group. Hence most of the study members were in this age group. According to one African research, IO is common in all age groups; [6] however, this also can't be ignored and

in this research individuals ≥ 18 years were only included. The mean age was reported as 45.6 ± 14.8 in another report. [7]

Gender wise in this research 80% (40) were male and the male female ratio was 4. In a retrospective study, Moghadam AG et al. noted a male preponderance of 65%, with females comprising 35%. [8]. These observations align with the findings of the present study and are further substantiated by Ahmad MS et al. reported a predominance of males at 68.75%. [9]

In this study, SBO was the leading (62%; 31) obstruction followed by LBO (24%; 12) and both (14%; 7). Moghadam AG et al. also reported similar findings with an incidence of 67% SBO. [8] As per Neri V et al. study, 72% SBO incidence was reported. [10] Similar to this study, in the literature

also abdominal pain was reported to be the commonest clinical presentation. [2, 11] Vomiting was the second commonest clinical presentation in this research. Nasiruddin S et al. [12] also reported vomiting to be the second commonest clinical presentation. Whereas, Tiwari et al. [5] identified the highest incidence of abdominal distension as the most recurring symptom, closely followed by constipation and vomiting. The primary cause of morbidity in IO was found to be surgical site infection, often preceded by septicemia, according to previous studies. [11, 13] With proper and sterile surgical measures, there was limited number of deaths among the AIO. [14] Similar findings were reported in this research also.

For individuals with AIO, timely diagnosis, effective preoperative hydration, swift diagnostic tests, and early surgical intervention have been demonstrated to enhance survival rates. However, short duration of the research is the limitation.

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