A RETROSPECTIVE STUDY OF INTESTINAL OBSTRUCTION PATIENTS IN AGMC & GBP HOSPITAL, TRIPURA

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ABSTRACT

BACKGROUND

Acute intestinal obstruction is one of the major causes of morbidity & mortality. Its management is still a challenge to surgeons in spite of advances in the field of medical sciences.

The aim of this study is to highlight the causes of intestinal obstruction in this geographical area and also other patient related relevant factors like age, sex, previous surgeries, presenting symptoms, type of surgeries performed, post-operative complications & mortalities.

MATERIALS AND METHODS

This retrospective study was conducted at Department of Surgery of AGMC & GB Pant Hospital, Agartala, Tripura from November 2012 to November 2016. A total of 87 patients presenting to Surgery Department with acute intestinal obstruction & who underwent operative management were included in this study.

RESULTS

The study group comprised of 87 cases of acute intestinal obstruction in age group of above 12 years. The common age group affected was 41-50 years, common sex was male, the commonest cause of acute intestinal obstruction in this study was adhesion & band (41.4%) followed by malignancy (26.4%). The other causes of intestinal obstruction are obstructed hernia (9.2%), volvulus (6.9%), stricture (5.7%), ileocecal tuberculosis (3.4%), superior mesenteric artery thrombosis (3.4%). The most common operation performed was adhesiolysis (39%) followed by resection & anastomosis (17.2%) and the most common post-operative complication observed was wound infection (29.9%). The mortality in this study was 9.2%.

CONCLUSION

Our study observed that adhesive intestinal obstruction is the most common cause of bowel obstruction followed by malignant bowel obstructions. Intestinal obstructions due to obstructed hernia are reduced because of practice of elective hernia surgery. Successful outcome in the management of acute intestinal obstruction mostly depends upon general condition of patients, early diagnosis & skilful perioperative management.

KEYWORDS

Intestinal Obstruction, Adhesion & Band, Malignancy, Obstructed Hernia, Adhesiolysis.

HOW TO CITE THIS ARTICLE: Chakma N, Sarkar B, Sarkar P. A retrospective study of intestinal obstruction patients in AGMC & GBP Hospital, Tripura. J. Evolution Med. Dent. Sci. 2016;5(103):7531-7533, DOI: 10.14260/Jemds/2016/1705

BACKGROUND

Intestinal obstruction refers to a situation when the intestinal contents cannot be forced further in aboral direction. Transit of intestinal content depends not only on an intact state of intestinal lumen, but also on peristalsis.¹ Intestinal obstruction is one of the major causes of morbidity & mortality.² It is a frequently encountered problem in abdominal surgery that requires immediate admission. Manifestations of intestinal obstruction can range from a fairly good appearance with only slight abdominal discomfort and distention to a state of hypovolaemic or septic shock (or both) requiring an emergency operation.³ Intestinal obstruction may be of acute

or chronic onset. It may be classified as dynamic obstruction (mechanical obstruction) or adynamic obstruction (paralytic ileus and pseudo-obstruction). It may also be classified as small bowel and large bowel obstruction.⁴ The diagnostic and therapeutic approach to bowel obstruction should be systematic. The main aetiology of obstruction is of varied ranging from adhesions which account for 75% of cases of small bowel obstruction; the other causes include hernias, malignant bowel obstruction, inflammatory bowel disease, internal hernias, volvulus and strictures.⁵

This retrospective study was conducted in patients operated for acute intestinal obstruction in Surgery Department of AGMC & GBP Hospital to highlight the common causes of intestinal obstruction and other patient related relevant factors like age, sex, previous surgeries, presenting symptoms, type of surgeries performed, post-operative complications & mortalities.

MATERIALS AND METHODS

This retrospective study was conducted at Department of Surgery of AGMC & GB Pant Hospital, Agartala, Tripura from

Financial or Other, Competing Interest: None.

Submission 07-12-2016, Peer Review 19-12-2016,

Acceptance 21-12-2016, Published 26-12-2016.

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DOI: 10.14260/Jemds/2016/1705

November 2012 to November 2016. A total of 87 patients presenting to Surgery Department with acute intestinal obstruction & who underwent operative management were included in this study. The patients who managed conservatively & the patients below 12 years (Paediatric age group) were excluded from the study.

Data collection included a detailed record of the patient's history, physical examination, and necessary investigations like baseline, X-ray abdomen erect and supine in all cases, ultrasound abdomen, barium studies, CT scan abdomen in some cases were recorded based on the requirement for each case.

The records of each patient with age, sex, symptoms, past surgical and medical history, diagnostic workup, aetiology of obstruction, operative information, morbidity and mortality and the final outcome of the patients were recorded in a predesigned proforma.

RESULTS

During the 4-year study period, 87 patients underwent operative management with exclusion of paediatric age group (age below 12 years) and others who were treated conservatively.

Age and sex distribution was in the ratio 1.2:1 (male: female) (Table-1) and the age distribution showed that most common occurrence of intestinal obstruction was in the age group of 41-50 years (27.6%) (Table-2).

Abdominal pain was the most common presenting complaint (100%) (Table-3) and the most common type of obstruction is small bowel obstruction (Table-4).

Adhesions & bands were the most common cause of intestinal obstruction (41.4%) followed by malignancy (26.4%). The other causes of intestinal obstruction are obstructed hernia (9.2%), volvulus (6.9%), stricture (5.7%), ileocaecal tuberculosis (3.4%), superior mesenteric artery thrombosis (3.4%) (Table-5).

Adhesiolysis was the most common type of surgery performed ((39%) followed by resection & anastomosis (17.2%) (Table-6) and the most common post-operative complication observed was wound infection (29.9%) (Table-7).

In our study, the mortality rate was 9.2% (8 patients). All of eight patients had expired due to development of multiorgan failure in the postoperative period because of sepsis (4 patients), compartment syndrome (2 patients), respiratory infection (1 patient), and anastomotic leak (1 patient).

Sex	No. of Patients (Percentage)
Male	48 (55.2%)
Female	39 (44.8)

Table 1. Sex Distribution

Age Group (Years)	No. of Patients
12-20	08
21-30	05
31-40	16
41-50	24
51-60	20
61-70	10
71-80	04

Table 2. Age group Distribution

Complaints	No. of Patients
Abdominal pain	87 (100%)
Vomiting	75 (86.2%)
Abdominal distension	72 (82.7%)
Constipation	72 (82.7%)

Table 3. Presenting Complaints

Type	No. of Patients
Small intestine	64 (73.6%)
Large intestine	23 (26.4%)

Table 4. Type of Bowel Obstruction

Cause	No. of Patients
Adhesion & band	36 (41.4%)
Malignancy	23 (26.4%)
Obstructed hernia	08 (9.2%)
Volvulus	06 (6.9%)
Stricture	05 (5.7%)
Ileocaecal tuberculosis	03 (3.4%)
SMA thrombosis	03 (3.4%)
Miscellaneous	03 (3.4%)

Table 5. Cause of Intestinal Obstruction

Type of Surgery	No. of Patients
Adhesiolysis	34 (39%)
Resection & anastomosis	15 (17.2%)
Resection & ostomy	11 (12.6%)
Hemicolectomy	08 (9.2%)
Diversion colostomy	10 (11.5%)
Hernia repair	04 (4.6%)
Loop ileostomy	02 (2.3%)
Strictureplasty	01 (1.1%)
Others	02 (2.3%)

Table 6. Type of Surgery Performed

Type of Post-Operative Complications	No. of Patients
Wound infection	26 (29.9%)
Respiratory infection	12 (13.8%)
Ostomy related complication	06 (6.9%)
Sepsis	05 (5.7%)
Compartment syndrome	04 (4.6%)
Anastomotic leak	03 (3.4%)
Burst abdomen	02 (2.3%)

Table 7. Type of Post-operative Complications

DISCUSSION

Acute intestinal obstruction is a major cause of morbidity and financial expenditure in hospitals around the world. It accounts for 15% of all emergency department visits for acute abdominal pain.⁶ The aetiology varies. However, adhesions appear to be the most common cause in the Western world as well as in parts of Asia and Middle East.^{7,8} In our study also, adhesions & band remain the most common cause of intestinal obstruction.

There is slight gender discrepancy in our patients with males outnumbering females which can be possibly accounted for obstructed inguinal hernia and malignant disease of the gastrointestinal tract that are more common in males as compared to females.

The majority of our study group presented with acute mechanical small bowel obstruction. This has also been found in other studies with small bowel obstruction accounting for about 80% of total obstruction cases.^{9,10}

The mortality and morbidity in our study was high compared to other similar studies.^{7,8} Most of our patients were from a poor socioeconomic status with a high prevalence of malnutrition, therefore, the morbidity and mortality are likely to be higher.

Author	Year	Total No. of Case	Most Common Cause
Present study	2016	87	Adhesions and bands
S. Thirumuruganand ¹¹	2016	50	Adhesive band obstruction
Goyal SK ¹²	2015	150	Adhesions & bands
Sinha S ¹³	2002	97	Adhesions
Arshad M ¹⁴	2010	229	Intestinal tuberculosis
Souvik Adhikary ⁵	2010	367	Adhesions
Madziga AG ¹⁵	2008	376	Obstructed hernia
Table 8. Comparison of most common cause of Intestinal Obstruction with other Studies ^{5,11-15}			

CONCLUSION

In this study, we have found that adhesive intestinal obstruction is a common cause of bowel obstruction and increased the incidence of malignant bowel obstructions. Intestinal obstructions due to obstructed hernia are reduced because of practice of elective hernia surgery. Successful outcome in the management of acute intestinal obstruction mostly depends on general condition of patients, early diagnosis & skilful perioperative management.

Acknowledgements

The authors would like to thank the Principal of AGMC & GBP Hospital, Agartala, Tripura, India for allowing publication of the data.

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