

STUDY OF CLINICAL EVALUATION OF INTESTINAL OBSTRUCTION

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Conflict of interest: Nil

Abstract

Introduction: All over world Intestinal obstruction is a common surgical emergency. Intra-abdominal problems are one of the most common as Intestinal Obstruction by general surgeons in their practice. Intestinal obstruction is defined as obstruction in forward propulsion of contents of the intestine either due to active or inactive or pseudo-obstruction. It is predisposed by varying underlying abnormality diseases that are difficult to define pre-operatively. About 12% to 16% of acute abdominal emergencies may be contributed to intestinal obstruction. With multiple etiologies for intestinal obstruction of either the small or large bowel which become to be a major cause of morbidity and mortality. There are various Mode of presentation for intestinal obstruction underlying various cause in each age group. In ancients period mortality and morbidity was very high. Nowadays due to improvement and understanding of pathophysiology, diagnosis techniques of radiology, electrolyte imbalance and high degree of refinement in correction of fluid, introduction of antibiotics to effective bacteriological control, introduction of techniques in gastrointestinal decompression, introduction of new surgical principles and primary anastomosis has replaced staged procedures and number of days stay in hospital with caring and with Improvement in field of anesthesia has all contributed to decreasing the morbidity and mortality. About 5 to 15% of cases of severe abdominal pain were due to Mechanical obstruction acquiring sudden onset requiring admission to hospital. Therefore all factors are making difference in outcome of any operative procedure in relation to morbidity and mortality. Patient with acute intestinal obstruction depends largely upon early diagnosis which is useful for success in treatment. Most of the mortality occurs in elderly age with late treatment and who are having associated pre-existing diseases like, diabetes mellitus, COPD and cardiac diseases. However intestinal obstruction is most often the result of colorectal malignancies and lesions usually arise in the sigmoid or recto sigmoid area.

Aim: The main aim of this study is to explore different modes of presentations of intestinal obstruction in different age group.

Material and method: All patients are informed consents. Total 50 patients having intestinal obstruction with various problems were taken in this study attending to hospital as in patient department (IPD) and outpatient department (OPD) of our hospital. A clinical study of intestinal obstruction were selected has to come across this surgical emergency and treatment and skillful management in surgery department of our hospital. The patients with age group 0-80 years were included in this study.

Result: In this study of 50 cases of intestinal obstruction was studied during period of 1 year. The study was done in all age groups with a mean age of 35 years. Occurrence of intestinal obstruction was common in male (72%) as compare to female (28%). Maximum presenting symptoms in this study was pain abdomen (80%) followed by vomiting (72%), Tenderness (86%), distension of abdomen (56%) and constipation (52%), most of patients with overlapping of symptoms.

Conclusion: Intestinal obstruction is more common in males compared to females. Mode of presentation also differs in different levels of intestinal obstruction. Adhesions accounted for majority of intestinal obstruction. Intestinal obstruction was found more common in children than other age groups. Malignancies are also common causes of intestinal obstruction. The clinical examination stressed upon vital signs and abdominal examination and Routine necessary investigations were carried out. Hence early recognition and timely intervention is important to prevent the intestinal obstruction.

Keywords: Intestinal obstruction, Intussusception, adhesions, hernia, intraperitoneal malignancy.

INTRODUCTION

All over world Intestinal obstruction is a common surgical emergency. Intra-abdominal problems are one of the most common as Intestinal Obstruction by general surgeons in their practice. Intestinal obstruction is defined as obstruction in forward propulsion of contents of the intestine either due to active or inactive or pseudo-obstruction. It is predisposed by varying underlying abnormality diseases that are difficult to define pre-operatively. About 12% to 16% of acute abdominal emergencies may be contributed to intestinal obstruction. With multiple etiologies for intestinal obstruction of either the small or large bowel which become to be a major cause of morbidity and mortalityⁱ. There are various Mode of presentation for intestinal obstruction underlying various cause in each age group. In ancients period mortality and morbidity was very high. Nowadays due to improvement and understanding of pathophysiology, diagnosis techniques of radiology, electrolyte imbalance and high degree of refinement in correction of fluid, introduction of antibiotics to effective bacteriological control, introduction of techniques in gastrointestinal decompression, introduction of new surgical principles and primary anastomosis has replaced staged procedures and number of days stay in hospital with caring and with Improvement in field of anesthesia has all contributed to decreasing the morbidity and mortality. About 5 to 15% of cases of severe abdominal pain were due to Mechanical obstruction acquiring sudden onset requiring admission to hospital^{ii, iii}. The direction of rise in small bowel obstruction has made early surgical intervention for intestinal obstruction^{iv}. Therefore all factors are making difference in outcome of any operative procedure in relation to morbidity and mortality. Patient with acute intestinal obstruction depends largely upon early diagnosis which is useful for success in treatment. Most of the mortality occurs in elderly age with late treatment and who are having associated pre-existing diseases like, diabetes mellitus, COPD and cardiac diseases. However intestinal obstruction is most often the result of colorectal malignancies and lesions usually arise in the sigmoid or recto sigmoid area^v. The main aim of this study is to explore different modes

of presentations of intestinal obstruction in different age group.

MATERIAL AND METHOD:

The Present study was conducted in the Dept. of General Surgery at Rajshree Medical research Institute & Hospital Bareilly. All patients are informed consents. Total 50 patients having intestinal obstruction with various problems were taken in this study attending to hospital as in patient department (IPD) and outpatient department (OPD). A clinical study of intestinal obstruction were selected has to come across this surgical emergency and treatment and skillful management in surgery department of our hospital. The patients with age group 0-80 years were included in this study. From all the patients complete clinical history was collected and also physical examinations were done. All patients' data with the operative and discharge record were correlated with the case notes wherever necessary. Patients who had hernia with recent onset of irreducibility, pain, vomiting and constipation were included in this study. Surgery stabilization of patients with shock, correction of electrolyte imbalance and nasogastric decompression was done with prior. Appropriate surgical procedure was carried out.

OBSERVATIONS AND RESULTS:

In this study of 50 cases of intestinal obstruction was studied during period of 1 year. The study was done in all age groups with a mean age of 35 years. Occurrence of intestinal obstruction was common in male (72%) as compare to female (28%) as shown in table below.

Table 1: Age group distribution with cases:

Age group(years)	Total no of cases
0-10	12
11-20	5
21-30	7
31-40	6
41-50	9
51-60	3
61-70	4
71-80	4

Maximum presenting symptoms in this study was pain abdomen (80%) followed by vomiting (72%), Tenderness (86%), distension of abdomen (56%)

and constipation (52%), most of patients with overlapping of symptoms as shown in table below.

Table 2: Analysis of symptoms and signs

Symptoms and signs	No. of cases	Percentage
Pain abdomen	40	80
Vomiting	36	72
Abdominal distention	28	56
Tenderness	43	86
Constipation	26	52
Increased bowel sounds	18	36
Absent bowel sounds	8	16
Decreased bowel sounds	10	20
Groin swelling	9	18
Visible peristalsis	8	16
Guarding	20	40
Rigidity	2	4
Significant PR findings	1	2

Etiology of intestinal obstruction shows 41 cases (82%) as shown in Table below. Adhesions is consider for majority of obstruction followed by Obstructed hernias (20%), Small bowel volvulus (14%) and Bands (12%) and so no. Malignancies were common cause of large bowel obstruction. Resection anastomosis (12 cases) and adhesiolysis (12 cases) was carried out.

Table: 3. Etiologies in obstruction.

Etiology of intestinal obstruction		
Adhesions	14	28
Obstructed hernias	10	20
Bands	6	12
Small bowel volvulus	7	14
TB stricture	2	4
Intussusception	3	6
Meckel's diverticulum	1	2
Meconium ileus	1	2
Etiology of large bowel obstruction		
Neoplasms	4	8
Volvulus	4	8
Intussusception	3	6
Causes of strangulation		
Hernias	4	8
Volvulus	9	18
Adhesions	2	4
Others	4	8

DISCUSSION:

Intestinal obstruction is continues to be frequent emergency which surgeons have to face. Intestinal obstruction is one of the commonly encountered clinical problems. The mortality has reduced significantly by instituting the treatment at the earliest period nowadays. According to Brewer et al in 1976 analyzed 1000 consecutive abdominal surgeries and reported an incidence of 2.5%^{vi}. As studied done by Jain et al in 1973, 3.2% reported an incidence^{vii}. About 3.2 million cases of intestinal obstruction occurred in 2015 which resulted in 264,000 deaths^{viii,ix}. In any age Both sexes are equally affected by intestinal obstruction which has been documented throughout history with cases detailed in the Ebers Papyrus of 1550 BC and by Hippocrates^{x,xi&xii}. According to the study conducted by Gill et al^{xiii} has reported 19.04% of cases in age group of 0-10 years which shows little bit more than this study. Another study Budharaja et al^{xiv} shows 13% of cases of intestinal obstruction below 12 year age which is almost similar to this study. In the study Duron JJ et al^{xv} found that adhesions contributed for intestinal obstruction upto 25.5% and Ti et al^{xvi} reported that postoperative adhesions and bands contributed upto 23.8% which is almost similar to this study. Fuzan et al study found that 42.2% patients the cause for intestinal obstruction was adhesions due to previous operations^{xvii}. Other study as Ramachandran et al reported 38.6% of overall incidence of strangulated obstruction with 21.4% of obstructed hernia in adults^{xviii}. As studied done by Budhraj et al the etiology for acute intestinal obstruction secondary to obstructed hernia accounted for 33% and incidence of gangrene was up to 22%^{xix}. A study conducted by Sankaran^{xx} reported 24 cases of volvulus in South India among which sigmoid volvulus predominated forming 50% of cases which is similar to this study. Tzu-chi et al study shows series managed total number of 214 cases out of which causes of colonic obstruction found was 71 (34.8%) in right colon, 127 in left colon of which sigmoid colon obstruction was found in 54 (42.5%) patients^{xxi}. In this study Maximum presenting symptoms was Pain abdomen 80%, vomiting 72% distention abdomen 56% and constipation 52% which is almost similar to study of Asbun et al that shows in retrospective analysis of 105 cases of small bowel obstruction found that

incidence of pain abdomen 82%, vomiting 88%, were commoner than constipation (28%) and distention of abdomen (56%)^{xxii}. pain abdomen and vomiting were more common obstruction as a predominant symptom.

CONCLUSION:

Intestinal obstruction is more common in males compared to females. Mode of presentation also differs in different levels of intestinal obstruction. Adhesions accounted for majority of intestinal obstruction. Intestinal obstruction was found more common in children than other age groups. Malignancies are also common causes of intestinal obstruction. The clinical examination stressed upon vital signs and abdominal examination and Routine necessary investigations were carried out. Hence early recognition and timely intervention is important to prevent the intestinal obstruction.

REFERENCE:

1. Scott G Houghton, Antonio Ramos De la Medina, Michael G Sarr. Bowel obstruction. In: Michael J Zinner, Stanley W Ashley, eds. Maingot's Abdominal operations. 11th ed. New York: McGraw-Hill Medical; 2007:479-505
2. Gore RM, Silvers RI, Thakrar KH, Wenzke DR, Mehta UK, Newmark GM, et al Bowel Obstruction. Radiologic Clinics North America. 2015;53(6):1225-40.
3. Fitzgerald J, Edward F. Small bowel obstruction. Oxford: Wiley- Blackwell; 2010:74-9.
4. Winslet MC. Intestinal obstruction. In: Russel RCG, Williams NS, Bullstrode CJK, editors. Bailey & Loves Short practice of Surgery 23rd edition. Edward Arnold ltd NY. 2000;1058:75.
5. Khurana B, Ledbetter S, McTavish J, Wiesner W, Ros P. Bowel Obstruction Revealed by Multidetector CT. American Journal of Roentgenology. 2002;178 (5):1139-1144.
6. Richard JB, Gerald TG, David CH, Leslie ER, Wangenstein SL. Abdominal pain. Am J Surg 1976; 131: 219 - 223
7. Gilroy P. Bevan. Adhesive obstruction. Ann Roy Call Surg Eng 1983; 164-17061. Sufian S, Matsumoto T. Intestinal obstruction. Am J Surg 1975; 130: PP 9 - 14
8. Vos T, Allen C, Arora M, Barber RM, Bhutta ZA, Brown A, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global burden of disease study 2015. The Lancet. 2016;388(10053):1545.
9. Feigin V. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the global burden of disease study 2015. The Lancet. 2016;388 (10053):1459- 544.
10. Ferri, Fred F. Ferri's Clinical Advisor 2015: 5 Books in 1. Elsevier Health Sciences; 2014:1093
11. Yeo, Charles J, McFadden, David W, Pemberton, John H, et al. Shackelford's Surgery of the Alimentary Tract. Elsevier Health Sciences; 2012:1851.
12. Liakakos T, Thomakos N, FinePM, Dervenis C, Young RL. Peritoneal adhesions: etiology, pathophysiology, and clinical significance". Dig Surgery Pub Med. 2001;18(4):260-73.
13. Gill SS, Eggleston FC. Acute intestinal obstruction. Arch Surg. 1965;91:389-92
14. Budharaja SN, Govindarajalu S, Perianayagum WJ. Acute intestinal obstruction in Pondicherry. IJS. 1976;111-7.
15. Duron JJ, Silva NJ, Montcel ST, Berger A, Muscari F, Hennet H, et al. Adhesive postoperative small bowel obstruction: incidence and risk factors of recurrence after surgical treatment: a multicenter prospective study. Ann Surg. 2006;244(5):750-7.
16. Ti TK, Young NK. The pattern of intestinal obstruction in Malaysia. BJS. 1976;63:963-5.
17. Fuzan M, Kaymake E, Harmancioglu O, Astarcioglu K. Principal causes of mechanical bowel obstruction in surgically treated adults in Western Turkey. BJS. 1991;78:202-03.
18. Ramachandran CS. Acute intestinal obstruction: 15 years' experience. IJS. 1982;672-679.
19. Budharaja SN, Govindarajalu S, Perianayagum WJ. Acute intestinal obstruction in Pondicherry. IJS. 1976;111-7
20. Sankaran V. Volvulus in South India. IJS. 1962: Indian J Surg. 1962;24:784-90.
21. Hsu TC. Comparison of one stage resection and anastomosis of acute complete obstruction of left and right colon. AJS. 2005;189:384-7.
22. Asbun HJ, Perpinello C, Halasz NA. Small bowel Obstruction and its management. Int Surg. 1989; 74:2-27.