

Study of Intestinal Obstruction in Telangana Population

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Abstract

Introduction: Intestinal obstruction occurs when there is an interruption in the forward flow of intestinal contents. This interruption can occur at any point along the length of the gastrointestinal tract and clinical symptoms often vary based on the level of obstruction.

Materials and Methods: A total of 86 patients between 19 and 68 years were regularly visiting the hospital (Medciti Institute of Medical Sciences, Ghanpur, Medchal-501401, Telangana) were selected for study because the clinical evaluation of intestinal obstruction is a surgical emergency and treatment would largely depend on early diagnosis and skillful management.

Results: The clinical manifestations were 100% pain in abdominal, 100% distention of abdomen 72 (83.7%) had vomiting, 69 (80.2%) had tenderness, 62 (72%) had constipation, 64 (74.4%) had dehydration, 16 (18.6%) had fever, 24 (27.9%) had palpable mass, 63 (73.2%) had increased bowel sound, and 11 (12.7%) had decreased bowel sounds. The etiology of intestinal obstruction was, 30 (34.8%) had adhesion and band, 16 (18.6%) had hernia, 15 (17.4%) had tuberculosis (TB) stricture, 13 (15.1%) had volvulus, and 12 (13.9%) had malignancy. Types of operations were 21 (24.4%) had resection and end to end ileo-ileal anastomosis, 24 (27.9%) had release of adhesion band, 16 (18.6%) had hernia repair, 6 (6.97%) had 13 (15%) had untwisting volvulus, 4 (4.65%) had resection and end to end jejunioileal anastomosis, and 2 (2.32%) had tube caestomy. Post-operative had were 7 (8.13%) had wound infections, 5 (5.18%) had respiratory infections, 3 (3.48%) had entero-cutaneous fistula, 4 (4.65%) had prolonged ileus, 8 (9.30%) deaths due to septicemia.

Conclusion: Intestinal obstruction, which still remains an important surgical emergency, obstructions due to adhesions is increasing due to abdominal and pelvic surgeries; obstruction due to TB stricture will have post-surgical complications. Early operation is mandatory to avoid development peritonitis and systemic sepsis associated with multi-organ failure.

Key words: Adhesion, Band, Hernia, Obstruction, Volvulus

INTRODUCTION

Intestinal obstruction occurs when there is an interruption in the forward flow of intestinal contents. This interruption can occur at any point along the length of the gastrointestinal tract and clinical symptoms often vary based on the level of obstruction. The incidence of small bowel obstruction varies between 1 and 5% in the patients who have not undergone previous surgery, yet may rise to 60% who have undergone previous

surgery.^[1,2] Intestinal obstruction is most commonly caused by intractable herniation and malignancy.^[3] The clinical manifestation includes nausea and emesis, colicky abdominal pain, failure to pass flatus, or bowel movements.^[4] The significant physical examination finding is abdominal distention, tympani to percussion and high pitched bowel sounds suggest the diagnosis, radiological imaging confirm the diagnosis management of uncomplicated obstructions includes fluid resuscitation with correction of metabolic derangements, intestinal decompression, and bowel rest. Evidence of vascular compromise or perforation or failure to resolve with adequate bowel decompression is an indication for surgical intervention; delayed approach may cause septicemia and death. Hence, an attempt was made to study the intestinal obstructions at different points of in different age groups and in both sexes.

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MATERIALS AND METHODS

A total of 86 patients between 19 and 68 years were regularly visiting the hospital (Mediciti Institute of Medical Sciences, Ghanpur, Medchal-501401, Telangana) were selected for study because the clinical evaluation of intestinal obstruction is a surgical emergency and treatment would largely depend on early diagnosis and skillful management.

The biochemical investigation, plain X-ray, erect abdominal, and USG of the abdomen were done when X-ray erect abdomen was inconclusive, computed tomography scan was done when USG was inconclusive. IV fluid mainly Ringer lactate and normal saline infusion until the hydration and urine output become normal. Nasogastric decompression with Ryles tube was carried out and antibiotic prophylaxis started. Pulse rate, blood pressure, respiratory rate, bowel sounds, tenderness guarding, and abdominal girth were noted.

Histopathological examination of the specimen of resection/biopsy was done in suspected cases; post-operative patient's condition recorded every hourly or four hourly depending on the severity of general condition and toxemia. Post-operative follow-up ranged between 2 and 6 months from the time of discharge.

The patients having HIV and neurological complication were excluded from the study. The ratio of male and females was 2:1.

The duration of the study was about 3 years (2015–2018).

RESULTS

Clinical manifestations the patients with intestinal obstructions 100% pain in abdomen, 100% distention of abdomen, 72 (83.7%) had vomiting, 69 (80.2%) had tenderness of abdomen, 62 (72%) had constipation, 64 (74.4%) dehydration, 16 (18.6%) had fever, 24 (27.9%) had palpable mass, 63 (73.2%) increased bowel sounds, 11 (12.7%) had decreases bowel sounds [Table 1].

Etiology intestinal obstruction 30 (34.8%) had adhesion and band, 16 (18.6%) had hernia, 15 (17.4%) had TB stricture, 13 (15.1%) had volvulus, and 12 (13.9%) had malignancy among them 5 (41.6%) had adenocarcinoma, 3 (25%) had characinoid tumor of small intestine, 2 (16.6%) had ovarian tumor, and 2 (16.6%) had stomach carcinoma [Table 2].

Types of operations in intestinal obstruction patients – 21 (24.4%) had resection and end to end ileo-ileal anastomosis, 24 (27.9%) had release of adhesion band, 26 (18.6%) hernia repair, 6 (6.97%) had hemicolecotomy,

13 (15%) had untwisting of volvulus, 4 (4.65%) had resection and end to end jejunioileal anastomosis, and 2 (2.32%) tube caestomy [Table 3].

Study of post-operative complication – 7 (8.13%) had wound infection, 5 (5.81%) had respiratory infections, 5 (5.48%) had enterocutaneous fistula, 4 (4.65%) had prolonged ileus, and 8 (9.30%) death due to septicemia [Table 4]

Table 1: Clinical manifestation of the patients with intestinal obstruction

| S. No | Particulars | Number of patients=86 | |
|-------|------------------------|----------------------------|--------|
| | | Number of the patients (%) | |
| 1 | Pain in abdomen | 86 | (100) |
| 2 | Distention of abdomen | 86 | (100) |
| 3 | Vomiting | 72 | (83) |
| 4 | Tenderness | 69 | (80.2) |
| 5 | Constipation | 62 | (72.0) |
| 6 | Dehydration | 64 | (74.4) |
| 7 | Fever | 16 | (18.6) |
| 8 | Palpable mass | 24 | (27.9) |
| 9 | Increased bowel sounds | 63 | (73.2) |
| 10 | Decreased bowel sounds | 11 | (12.7) |

Table 2: Etiology of intestinal obstruction

| S. No | Etiology | Number of patients=86 | |
|-------|---|----------------------------|--------|
| | | Number of the patients (%) | |
| 1 | Adhesion and band | 30 | (34.8) |
| 2 | Hernia | 16 | (18.6) |
| 3 | TB stricture | 15 | (17.4) |
| 4 | Malignancy | 12 | (05) |
| | a. Adenocarcinoma | 03 | (02) |
| | b. Carcinoid tumor of small intestine | 02 | (13.9) |
| | c. Ovarian tumor (peritoneal metastasis with adhesions between ileal-loops) | 41.6 | (25) |
| | d. Stomach carcinoma (in filtering transverse colon) | 16.6 | (16.6) |

TB: Tuberculosis

Table 3: Types of operations in intestinal obstruction

| S. No | Types of operations | Number of patients=86 | |
|-------|---|----------------------------|--------|
| | | Number of the patients (%) | |
| 1 | Resections and end to end ileo-ileal anastomosis | 21 | (24.4) |
| 2 | Release of adhesion band | 24 | (27.9) |
| 3 | Hernia repair | 16 | (18.6) |
| 4 | Hemicolecotomy | 06 | (6.97) |
| 5 | Untwisting of volvulus | 13 | (15.1) |
| 6 | Resection and end to end jejunioileal anastomosis | 04 | (4.65) |
| 7 | Tube caestomy | 02 | (2.32) |

Study of follow-up status – 5 (5.8%) would infection for 1 month, 4 (4.65%) fever for 1 month, 2 (2.32%) for 3 months, 6 (6.97%) respiratory infection of 1 month, and 2 (2.32%) respiratory infection for 3 months [Table 5].

DISCUSSION

The present study of intestinal obstruction in conducted on Telangana population. The clinical manifestation was 100% pain in abdomen and distention of abdomen, 72 (83.7%) had vomiting, 69 (80.2%) had tenderness, 62 (72%) had constipation, 64 (74.4%) had dehydration, 16 (18.6%) had fever, 24 (27.9%) had palpable mass, 63 (73.2%) had increased bowel sounds, and 11 (12.7%) had decreased bowel sounds [Table 1]. Etiology of intestinal obstruction was 30 (34.8%) had adhesions and band, 16 (18.6%) had hernia, 15 (17.4%) had TB stricture, 13 (15.1%) had volvulus, and 12 (13.9%) had malignancy [Table 2]. Types of operation carried out for intestinal obstruction were 21 (24.4%) resection and end to end ileo-ileal anastomosis 24 (27.9%) had release of adhesion band, 16 (18.6%) hernial repair, 6 (6.97%) hemicolectomy, 13 (15%) untwisting of volvulus, 4 (4.65%) resection and to end jejunoileal anastomosis, and 2 (2.32%) had tube caestomy [Table 3]. Study of post-operative complication included 7 (8.13%) had wound infections 5 (5.8%) had respiratory infections, 3 (3.48%) had enterocutaneous fistula, 4 (4.65%) had prolonged ileus, and 8 (9.30%) death due to septicemia [Table 4]. Follow study status was, 5 (5.81%) 4 (4.65%) had fever for 1 month 2 (2–32%) for 3 months respectively, 6 (6.97%) had respiratory infection for of month and 2 (2.32%) respectively [Table 5] these findings were more or less in agreement with previous studies.^[5-7]

Table 4: Study of post-operative complications

| S. No | Post-operative complications | Number of patients=86 | |
|-------|------------------------------|----------------------------|--|
| | | Number of the patients (%) | |
| 1 | Wound infections | 7 (8.13) | |
| 2 | Respiratory infections | 5 (5.81) | |
| 3 | Entero cutaneous fistula | 3 (3.48) | |
| 4 | Prolonged ileus | 4 (4.65) | |
| 5 | Death due to septicemia | 8 (9.30) | |

Table 5: Study of follow-up of status

| S. No | Follow of complications | Number of patients=86 | |
|-------|-------------------------|------------------------|------------------------|
| | | 1 month | 3 months |
| | | Number of patients (%) | Number of patients (%) |
| 1 | Wound infection | 5 (5.81) | - |
| 2 | Fever | 4 (4.65) | 2 (2.32) |
| 3 | Respiratory infection | 6 (6.97) | 2 (2.32) |

Intestinal obstruction is one of the most common causes for surgical admission since centuries; however, the etiology has changed over a period of time. Obstructed hernia used to be most common cause in 90s which has now decreased due to elective hernia repair surgeries.^[8] Patients with suspected adhesions and abdominal TB respond successfully to expectant management volvulus were the second most common cause of intestinal obstruction including both small intestine and colon.^[9] It was reported that lack of peritoneal covering in the rectal areas which allow easier cancer dissemination into the parietal fat. Most authorities believe that the size of the lesion has nothing to do with nodal metastasis or survival. This is probably true in the colon but not in the rectum because the lumen of the rectum is large and rectum is fixed only for advanced growth causes obstruction.

Moreover, obstruction of the large bowel occurs more frequently in the left colon. It could be due to the narrowed lumen hence acute complete obstruction in the sigmoid colon may be explained on the basis of the narrow lumen, solid faces, and the predominance of annular lesions.

It was also reported that acute internal obstruction could be due to Meckel's diverticulum.

It was noted that's patients had developed tendency toward conservative approach, more patients are now subjected watchful waiting, which makes the delay before operation longer for those who are eventually operated. Delay for the treatment was observed in females as compared to the male, but no explanation was reasoned so far; hence, major complicated operation such as obstruction, strangulations, or perforation was observed in females than males due to later approach to surgeon.^[10]

Strangulation and gangrene of the bowel will be a rare cause of death if early surgery were performed. Delay in treatment leads to an increase in post-operative morbidity and hospital stay after surgery.

Many thousands of pages have been written by dozens of experienced surgeons on the differential diagnosis of simple and strangulated obstruction. Various authorities have emphasized various factors in the history of the examination and results of laboratory investigations of these patients. A sudden onset of pain that is continuous rather than colicky, the early appearance of shock, fever tachycardia, appreciable abdominal tenderness, release tenderness, guarding, a tender abdominal mass and raised white blood count are said to point to strangulation. Hence, early laparotomy was advocated because procrastination merely puts the patient's life in further jeopardy.

CONCLUSION

The present study intestinal obstruction, which still remains an important surgical emergency, obstructions due to adhesions is increasing due to abdominal and pelvic surgeries; obstruction due to TB stricture will have post-surgical complications. Early operation is mandatory to avoid development peritonitis and systemic sepsis associated with multi-organ failure. This study further demands to create awareness among the people not to ignore the colic or continuous abdominal pain and seek early medical advice because the abdomen is popularly called as magic-box as it has different organs with multiple functions. Hence, it is an enigma to the clinician/surgeon.

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