



A Prospective Study Of Intestinal Obstruction In A Rural Hospital In India

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ABSTRACT

Acute intestinal obstruction is a one of the common life threatening emergencies all over the world. Clinical judgment regarding the cases of intestinal obstruction greatly influences the need of urgent surgery and prognosis of patients especially in a rural set up where advanced imaging modalities are either not available or are available in limited number of cases. This prospective study included 129 (1.11%) patients of intestinal obstruction. Maximum cases 31(24.03%) were seen in first decade of life with male predominance. Conservative management is successful in 40 to 70 percent of clinically stable patients. The ratio of small bowel to large bowel obstruction was found to be 4.43:1. Out of 87 operated cases, most common procedure was resection anastomosis, performed in 34 (39.08%) cases. Mortality rate was 6.20 %.

Keywords : Acute intestinal obstruction, etiology, treatment

Introduction:

Intestinal obstruction continues to remain a challenge to surgeon despite advances in field of medicine, path-physiology, surgical technique and conservative management. Acute abdomen is a significant cause of mortality in many developing countries. [1] Early, accurate diagnosis and prompt treatment is needed for cases of intestinal obstruction. Determination of level of obstruction often eludes surgeons, who are many times ignorant about the presence or absence of strangulation. Abdominal X-ray film and ultrasonography has advantage in the diagnosis of intestinal obstruction.

Computed tomography (CT) has a sensitivity of 81% for high-grade and 48% for low-grade obstruction and has the additional benefit of defining the cause and level of obstruction in many patients. [2]

Despite the above mentioned facts, clinical judgment regarding the presence or absence of strangulation greatly influences the need of urgent surgery and prognosis of patients especially in a rural set up where advanced imaging modalities are either not available or are available in limited number of cases.

Charles V. Mann (1994) has given, the classical clinical advice that 'sun should not both rise and set' on a case of unrelieved intestinal obstruction, unless there are positive reason for delay. [3] Surgeons have studied these problems in detail from so many years, but it remains an enigma still today. Many facts of this potentially lethal condition have remained obscure even to this date. Its etiology and clinical features are diverse, and depend upon factors like age of patient, site of obstruction, severity of obstruction, time lag between development of the condition and treatment, and lastly on treatment pattern instituted.

Hence, the aim of our study was to know the incidence, etiology, various presentation, morbidity and mortality in cases of intestinal obstruction in a rural hospital in

absence of sophisticated diagnostic imaging modalities.

Materials and methods:

A prospective study of 129 patients, presenting with acute intestinal obstruction, admitted and treated at a rural hospital over a period of three years was undertaken. Cases of imperforated anus and pyloric stenosis were excluded from the study. Patients with clinical suspicion and previous history of tuberculosis were also initially kept on conservative antituberculous regime. All cases were thoroughly investigated like necessary routine preoperative surgical profile, X- ray abdomen and rarely ultrasonography. Barium studies and CT abdomen were possible only in two cases. Early management mainly consisted of intravenous fluids, nasogastric decompression, antibiotic administration. Patients were monitored to see the response to above conservative management . Failure of relief of obstruction on this conservative treatment for more than 48 hours was followed by laparotomy. All the data was collected from available clinical details and analyzed statistically.

Results:

In this study, out of 11520 surgical admissions, 129 (1.11%) cases were of intestinal obstruction. Out of which, there were 96 (74.42 %) male patients and 33(25.58%) female patients. Male: Female ratio was 2.90:1 in this study.

Majority of patients presented with classical symptoms like pain in abdomen in 120 (93.02%), distension of abdomen in 103(79.84%), vomiting in 102 (79.06%) and constipation in 86 (66.66%) cases. Other rarer presentations included swelling in inguinal region in 19 (14.72%), per- rectal (P/R) bleeding in 8 (6.20%) and passage of worms in stool in 7 (5.42%) cases respectively. Most of the patients, 39 (30.23%), presented late that is after 96 hours of initiation of symptoms whereas 30 ((23.25%) patients presenting within 24 hours.

On local examination, most of the patients, 113

(87.59%) had abdominal distention. Abdominal tenderness was found in 103 (79.84%) cases, scar abdomen in 45(34.88%), tachycardia in 44 (34.10%), visible loops in 42 (32.55%), hyperperistaltic bowel sounds in 42(32.55%) cases, lump in abdomen in 17 (13.17%) cases, guarding in 26 (20.15%) cases, absent bowel sounds in 25(19.37%) cases, irreducible inguinal swellings in 19 (14.72%) cases and rigidity in 3 (2.32%) cases.

In present study, Plain X-ray abdomen was done in 78 patients and was diagnostic in 48 patients. Ultrasonography was done in 63 cases and found to be diagnostic in 35 patients. Barium studies and computerized Tomography could be done in only in 2 cases and were found to be 100% diagnostic.

Out of the 129 cases, 87(67.44%) patients were operated, 34 (26.35%) patients were managed conservatively and 8 (6.20%) patients were died before surgical intervention during initial treatment. Most common procedures done were Resection anastomosis, reduction of hernia with repair, derotation of Volvulus. Other procedures undertaken were Adhesionolysis, enterotomy, reduction of intussusception, colostomy, by pass and stricturoplasty.

[Chart No-1]

Amongst operated cases, small bowel was the site of obstruction in 71(81.60%) cases and large bowel obstruction in 16(18.60%) cases. Thus small bowel: large bowel obstruction ratio was 4.43:1.

[Chart No-2]

The present study showed adhesions as the most common cause of intestinal obstruction in 33 (25.52%) cases. Other causes like bands, obstructed hernia, volvulus, intussusception, malignancy, stricture, worms, TB abdomen and miscellaneous were observed. In 3(2.32%) cases cause was not found.

Out of 87 operated cases, 27(31.03%) patients developed complication postoperatively. Wound infection was the commonest complication seen in 9 (10.34 %) cases. Other complications like septicemia with shock in 8(9.19%)cases, faecal fistula and respiratory infection in 4 (4.59%) cases each, burst abdomen in 2(2.29 %) cases.

Total 8(6.20%) deaths occurred in present study. Septicemia with shock was the cause of death in 5(3.87%) cases. Faecal fistula in 2(1.55%) cases. only one patient died due to myocardial infarction.

Discussion:

This prospective study included 129 (1.11%) patients of intestinal obstruction. Male to female ratio was 2.44:1 with overall male predominance.

Maximum cases 31(24.03%) were seen in first decade of life which correlated with previous studies. [4] Presentation in the neonate is usually acute and is the most common surgical emergency. [5]

Pain in abdomen was the most common symptom present in 120 (93.02%) cases. In our series maximum 39 (30.23%) patients presented after 96 hours.

Abdominal distention was the commonest sign found in 113 (87.59 %) patients followed by abdominal tenderness observed in 103 (79.84%) patients. A critical factor in managing these patients is to determine whether patients can be treated by conservative treatment or emergency surgery. [6] Conservative management is successful in 40 to 70 percent of clinically stable pa-

tients, with a higher success rate in those with partial obstruction. [7]

If intestinal obstruction is not resolved with conservative management, surgical evaluation is required. [8] Out of 87 operated cases, 71 cases were found to be due to small bowel obstruction and in 16 cases; large bowel was site of obstruction. In this study, the ratio of small bowel to large bowel obstruction was found to be 4.43:1. We observed that upper gastro intestinal obstruction is still more common than lower gastro intestinal obstruction.

Adhesion and Bands may be due to prior abdominal surgery or due to inflammatory processes in abdominal cavity. It accounted for 38(29.45%) cases which were correlated with previous studies. [9] Present study showed volvulus in 16 (12.40%) cases. Out of 129 cases of intestinal obstruction, 31 patients belonged to pediatric age group. Out of 31 cases, 11(37.48%) patients had intussusceptions. Thus incidence of intussusceptions against the total cases of intestinal obstruction was 8.52%. The pattern of the etiology of intestinal obstruction in this study agreed with the previously reported patterns with intussusceptions. [10]

In our study, all 10 cases of obstruction were due to large bowel malignancy. No case of small bowel malignancy was seen.

Incidence of worm obstruction was observed in 8(6.2%) cases due to worm bolus observing the lumen. Thus incidence of worm obstruction ranges between 4-16 % amongst cases of intestinal obstruction; similar findings were noted by other authors. [11]

Another important and increasingly common cause of acute bowel obstruction is found to be abdominal tuberculosis. Present study showed 4(3.10%) cases of Koch's abdomen causing symptoms of intestinal obstruction. similar to that reported in previous studies. [12]

Procedure performed varied depending upon site of obstruction, cause of obstruction and condition of bowel. In present study, most common procedure was resection anastomosis, performed in 34 (39.08%) cases

In this present study, complications were 27(31.03%) cases. The most common complication was wound infection found in 9(10.34 %) cases and 8 patients succumbed constituting mortality rate of 6.20. %, Septicemia with shock caused 5 deaths. Out of these 5 patients, 3 expired before surgery.

After correlation with previous studies, lesser mortality rate in present study may be due to proper and prompt treatment of cases of intestinal obstruction. It may be attributed to better intravenous fluid management and nasogastric decompression, blood transfusion, antibiotic administration and better anaesthetic and surgical skills.

[Table No-1]

Conclusion:

To, conclude, success in the treatment of acute intestinal obstruction depends largely upon early diagnosis, skillful management and an appreciation of the importance of treating the pathologic effects of obstruction just as the cause itself rather than presence of sophisticated imaging modalities. Improvements in surgical and anaesthetic techniques have reduced the mortality in intestinal obstruction. However recognition of strangulation in intestinal obstruction remains important problem for surgeons even today.

Table No -1

Comparison of common causes of intestinal Obstruction and over-all mortality Rate

Author and year	Hernia	Adhesion	Volvulus	Overall mortality rate
Naaeder etal 1993[13]	59.8 %	21.0 %	6.2 %	9.4 %
Badoe 1995[14]	77.2 %	10.2 %	5.2 %	9.1 %
Ohene-Yeboah2003[15]	63.2 %	27.2 %	5.8 %	12 %
Present study 2012	17.05	25.58 %	12.40 5	6.2 %

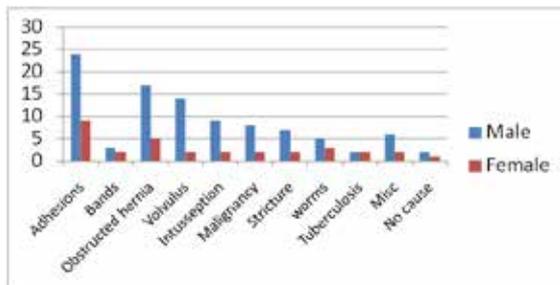
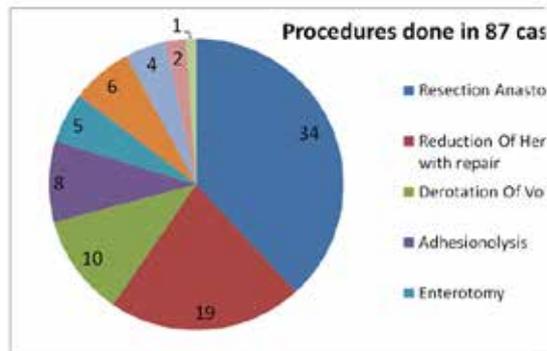


Chart No 1



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