



CLINICAL STUDY AND EVALUATION OF SURGICAL MANAGEMENT OF ADULT PATIENTS WITH ACUTE INTESTINAL OBSTRUCTION

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ABSTRACT

This study aimed to evaluate the treatment protocol of intestinal obstruction in adults. In this cross-sectional study, A total of (40) patients diagnosed with intestinal obstruction in the OPD and emergency department of Al-Ramadi teaching hospital/Iraq were included during the period from July to December 2019. The ethical committee of the hospital was informed about the study and the ethical clearance certificate was obtained from them before the start of the study. All the patients with the provisional diagnosis of the intestinal obstruction were assessed clinically after the admission. Appropriate surgical procedures were implemented on the patients with clear signs and symptoms of acute abdominal obstruction. Surgery adopted and criteria for deciding the procedure were noted. Results showed that for the management of small bowel obstruction, Adhesiolysis was done to 9 patients, resection and anastomosis was done to 5 patients, to 3 patients the band release procedure was performed, hernia repair was done to 6 patients, followed by resection, hernia repair, volvulus derotation, while Mekels diverticulectomy was done to 1 patient respectively. For the management of large bowel obstruction, the colostomy was done to 6 cases, resection and anastomosis to 2 cases, intussusception milking to one case, volvulus derotation was done to 1 case and right hemicolectomy was done to 3 cases of CA ascending colon. It can be concluded from this study that success in the treatment of acute intestinal obstruction depends largely upon early diagnosis skillful management and treating the pathological effects of the obstruction just as much as the cause itself. Postoperative adhesions are the common cause to produce intestinal obstruction. Clinical radiological and operative findings put together can diagnose the intestinal obstruction. Mortality is still significantly high in acute intestinal obstruction.

KEYWORDS: Adhesions, Intestinal obstruction, Large bowel, Small bowel, Treatment.

INTRODUCTION

Bowel obstruction remains one of the most common intra-abdominal problems faced by general surgeons in their practice.^[1] Abdomen is like a magic box, an aptly said statement because any case admitted in the surgical ward as acute abdomen is dilemma to operating surgeon unless the box is opened.^[2]

It is defined as obstruction in forward propulsion of the contents as obstruction in the intestine either due to mechanical or neurological causes. It is predisposed by varying underlying anomalies and diseases, which are difficult to define preoperatively.^[3] Though intestinal obstruction can be diagnosed easily, the underlying cause except postoperative adhesions and external hernias are difficult to be diagnosed preoperatively.^[4]

They account for 12% to 16% of surgical admissions for

acute abdominal complaints. Manifestations of acute intestinal obstruction can range from a fairly good appearance with only slight abdominal discomfort and distension to a state of hypovolemic or septic shock (or both) requiring an emergency operation.^[5] To identify and analyze the clinical presentation, management and outcome of patients with acute mechanical obstruction along with the etiology of obstruction and the incidence and causes of bowel ischemia, necrosis and perforation must be done.^[6]

The diagnosis and management of the patient with intestinal obstruction is one of the more challenging emergency that a general surgeon can come across. Although the mortality due to acute intestinal obstruction is decreasing with better understanding of pathophysiology, improvement in diagnostic techniques, fluid and electrolyte correction, much potent anti-

microbials and surgical management, but still mortality ranges from 3% for simple obstruction to as much as 30% when there is vascular compromise or perforation of the obstructed bowel.^[4,7,8]

Early diagnosis of obstruction skillful operative management, proper technique during surgery and intensive postoperative treatment carries a grateful result. Hence the aim of the study was to evaluate the treatment protocol of intestinal obstruction in adults.

METHODS

The present cross-sectional study was done with the aim of evaluation of surgical management of the intestinal obstruction and its associated complications among (40) patients diagnosed with intestinal obstruction at the OPD and emergency department surgery of Al-Ramadi teaching hospital during the period from July to December 2019.

The patients with history and clinical picture suggestive of intestinal obstruction, also the patients who had hernia with recent onset of irreducibility, pain, vomiting and constipation were included in this study, while patients having dynamic or sub-acute intestinal obstruction who were treated with conservation were excluded from the study.

All the patients with the provisional diagnosis of intestinal obstruction were assessed clinically after the admission. The history recording was done, relevant biochemical and pathological investigations were done in all the cases. Radiological examination was done. Plain x-ray of erect abdomen was done. The results of the patients who were inconclusive on the x-ray were subjected to ultrasonography of abdomen. Some of the selected cases were subjected to CT scan abdomen. To provide hydration and normalize the urine output the I.V. fluids with ringer lactate solution and normal saline was administered once the admissions of the patients were done. Nasogastric decompression with Ryle's tube was carried out and antibiotic prophylaxis started. Close observation of all bedside parameters was done..

Appropriate surgical procedures were implemented on the patients with clear signs and symptoms of acute

abdominal obstruction. Surgery adopted and criteria for deciding the procedure were noted. Histopathological examination of the specimen of resection/biopsy was done whenever necessary. The postoperative period was monitored carefully and all parameters were recorded on hourly or four hourly basis depending upon the patients general condition and toxemia.

Postoperative follow up period ranged between 2-6 months from time of discharge, some patients were not regular in their follow up visits the results were tabulated mostly stressing on following points i.e. age, sex, symptoms, signs, investigations, probable causative factors, operative findings and operative procedure adopted.

Statistical analysis

Chi-square test has been used to find the significant of proportion of postoperative complications in association with etiology of intestinal obstruction.

The recorded data were compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 20 (SPSS Inc., Chicago, Illinois, USA). For all tests, confidence level and level of significance were set at 95% and 5% respectively.

RESULTS

The study was done in all age groups ranging from newborn to 70 years with a mean age of 38.7 years. The occurrence of intestinal obstruction was common in male 30(75%) in comparison to female 10(25%), with male to female ratio 3:1. There was a higher small bowel obstructions 27(67.5%) when compared to large bowel obstruction 13(22.5%).

The analysis of the sign and symptoms showed that tenderness was the major symptoms in the patients, followed by vomiting, then abdominal pain. Other symptoms and signs observed in patients were distension, constipation of stomach, increased bowel sounds. Plain x-ray erect abdomen was done to 38 out of 40 cases. Positive interpretation occurred when it was correlated with exact site of pathology and was negative when it did not occur.

Table (1): Signs and symptoms of the patients with intestinal obstruction.

Signs and symptoms	No. of cases
Abdominal tenderness	37
Vomiting	35
Abdominal pain	38
Abdominal distension	33
Constipation	25
Increases bowel sounds	19
Decreased or absent bowel sounds	11
Groin swelling	5
Abdominal rigidity	8

Table (2): Management of large bowel obstruction.

Causes	No. of cases (13)
Colostomy	6
Right hemicolectomy	3
Resection and anastomosis	2
Volvulus derotation	1
Milking of intussusceptions	1

Table (3): Management of small bowel obstruction.

Causes	No. of cases (27)
Adhesiolysis	9
Hernia repair	6
Resection and anastomosis	5
Band release	3
Volvulus derotation	1
Resection	2
Mekels diverticulectomy	1

The management of the intestinal obstruction was done as follows: The small bowel obstruction was seen in 27 patients, and in 13 patients the large bowel obstruction was diagnosed. For the management of small bowel obstruction, adhesiolysis was done to 9 patients, resection and anastomosis was done to 6 patients, in 4 patients the band release procedure was performed, hernia repair was done to 6 patients, followed by resection, hernia repair, volvulus derotation and Meckel's diverticulectomy which were done to 2 patients respectively. For the management of large bowel obstruction, the colostomy was done to 6 cases, resection and anastomosis to 3 cases, intussusception milking to one case, volvulus derotation was done to 1 case and right hemicolectomy was done to 2 cases of CA ascending colon.

DISCUSSION

Acute intestinal obstruction continues to be the most common surgical emergency. Acute intestinal obstruction is a major cause of morbidity and financial expenditure in hospitals around the world.^[9] In our study, a total number of 40 patients were admitted with the diagnosis of intestinal obstruction. In our clinical study, incidence of acute intestinal obstruction was 2.5% of the total surgical cases. In the study by Adhikari et al, incidence was 9.87% of total surgical cases.^[9] In the Bhargava Anderson's series, incidence was 3% of the total surgical cases. The commonest cause was found to be postoperative adhesions followed by obstructed/strangulated inguinal hernia, malignancy, intussusception, volvulus, tuberculosis and mesenteric ischaemia.^[10]

The involvement of small bowel in obstruction is much more common than that of large bowel (Sufian and Mostumoto). The delay in the treatment will lead to high mortality. The mortality has reduced significantly by instituting the treatment at the earliest period. 1-4% of mortality in emergency surgeries is contributed by acute intestinal obstruction.^[11]

The delay in the treatment will lead to high mortality. Since the advancement in understanding the anatomy/physiology fluid and electrolyte management along with modern antibiotics and intensive care unit. The mortality has been decreasing consistently, associated medical problems (like respiratory cardiac or metabolic diseases) and advanced age carries a considerable contribution in adding the mortality.^[12,13]

In our study, the incidence of intestinal obstruction in males was 32 and that of females was 8m and male to female ratio was 3:1. The male preponderance is consistent with series reported from other part of world. Fuzan and Lee reported 2:1 male to female ratio. In our study, it was shown that adhesions remain the most common cause of intestinal obstruction. Our study results are comparable with other study groups like Thampi et al and Playforth et al.^[1] A study conducted by Adhikari et al in eastern India showed that hernias were the most common cause of intestinal obstruction.^[14]

The surgical management in the present study included release of adhesions for postoperative adhesions 33.3%, resection of anastomosis for many of the cases of obstructed/strangulated hernia where the viability of the bowel was doubtful and also for ischaemic bowel 18.5%, release of constricting agents and herniorrhaphy was done to 11.1% of the obstructed/strangulated hernia cases. Derotation of volvulus and sigmoidopexy was done to 3.7% of the cases. Resection anastomosis and herniorrhaphy was done to 7.4% of the cases. Reduction of intussusception to one case. One case was managed with Hartman's procedure and one case with transverse loop colostomy.

As the present study was done on small sample size with limited geographical distribution, So further research is required involving longitudinal study on the same target population to see the maximum impact.

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