Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com/sjams/

OPEN ACCESS

Surgery

Treatment Outcome of Patients with Large Gut Obstruction

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DOI: 10.36347/sjams.2020.v08i04.018 | **Received:** 28.03.2020 | **Accepted:** 04.04.2020 | **Published:** 22.04.2020

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Abstract **Original Research Article**

Objective: In this study our main goal is to assess treatment outcome of patients with large gut obstruction. ***Method:*** This prospective study was done intotal 50 patients possessing the symptoms and signs of suspected large bowel obstruction irrespective of age and gender included in this study at different surgical units of Shaheed Ziaur Rahman medical college hospital, Bogra from May 2009 to April 2010. ***Results:*** Age of the patients ranged from 14-79 years. Among them maximum (28%) were in between 51-60 years and followed by 41-50 years (24%). It was shown that large gut obstruction is more common in older age group. Volvulus (46%) is the most common causes of large gut obstruction followed by malignancy (36%)**.** Wound infection is most common complication, followed by stoma related and chest infection.17 patient (37.77%) left hospital within 7-10 days, 12 patients within 11-15 days and only 5 patients stayed more than 21 days in whom secondary suture were done. The mortality rate was 5 patients (10%) among 50 patients. ***Conclusion:*** A careful approach is required to avoid the increased morbidity and mortality associated with delay in the diagnosis of gangrenous obstruction. The single most antecedent of a grave prognosis is late presentation. Increasing the patient awareness will help to decrease the incidence of large gut obstruction significantly?

Keywords: Acute abdomen, Large guts obstruction, surgical emergency.

INTRODUCTION

Acute abdomen is one of the important surgical emergencies throughout the world. Twenty percent of admissions of acute abdomen are due to intestinal obstruction. A particular portion of these are because of large bowel obstruction [1]. The obstruction may be of benign or malignant origin. The risk of obstruction increases with age, more in left colon than right colon due to narrower lumen and solidification of fecal matter. Patients are often come with advanced diseases.

Large bowel obstruction is an emergency condition that requires early identification and intervention. It is important to distinguish colonic obstruction from ileus, as well as to distinguish true mechanical obstruction from pseudo-obstruction and treatment differs. Large gut obstruction often presents as an emergency that requires early and accurate diagnosis for prompt treatment. Although large gut obstruction is 4–5 times less common than small bowel obstructions, it accounts for nearly 2%–4% of all surgical admissions [2, 3]. In our country majority of patients present very late when the pathophysiological effect of obstruction arein advance stages. In addition, there is further delay in proper resuscitation and operative treatment [4]. So, mortality and morbidity is higher in patients with large bowel obstruction. The patients with large bowel obstruction present with absolute constipation, abdominal distention, colicky abdominal pain and vomiting. Some of them present with extreme dehydration and with sock. Successfully management largely depends upon early diagnosis, skillful treatment and an appreciation of the importance of treating the pathological effects of the obstruction just as much as the cause itself [5].

The early recognition and speedy relief of strangulated obstruction helps to reduce mortality**.** In this study our main goal is to assess treatment outcome of patients with large gut obstruction.

OBJECTIVE

General objective

- To evaluate treatment outcome of patients with large gut obstruction

Specific objectives

- To identify common causeof large gut obstruction.

METHODOLOGY

Type of study	**Prospective study**
Place of study	Different surgical units of Shaheed Ziaur Rahman medical college hospital, Bogra.
Study period	May 2009 toApril 2010.
Study population	Total 50 patients possessing the symptoms and signs of suspected large bowel obstruction irrespective of age and gender included in this study.
Sampling technique	Random sampling

METHOD

The diagnosis was made on clinical findings and radiological reports. In history, attentions were paid to the age and gender of the patient, duration and sequence of appearance of the symptoms, history of previous operation, dietary history and bowel habit. On general examination each patient was evaluated specially for state of dehydration and vital signs. During examination of the abdomen attention was paid to the location of tender lump and degree of abdominal distention, visible peristalsis, abdominal tenderness, muscle guard and rigidity and presence or absence of bowel sound or increased bowel sound. In all cases examinations of the hernial orifices and per rectal digital examination were done.

STATISTICAL ANALYSIS

Collected data was collated and appropriate statistical analysis was done using computer-based SPSS (Statistical program for scientific study) package

RESULTS

In table-1 shows age distribution of the patients where maximum numbers of patients were in the age group 51-60 years (28%) followed by 41-50 years (24%).The following table is given below in detail:

Table-1: Age distribution of the patients

Age	Percentage	Number of cases
10-20 years	2	1
21-30	8	4
31-40	20	10
41-50	24	12
51-60	28	14
61-70	14	7
>70	4	2

In table-2 shows gender distribution of the patients were out of 50 patients 31 (62%) were male and 19 (38%) were female. The following table is given below in detail:

Table-2: Gender distribution of the patients

Gender	Percentage	Number of cases
Male	62%	31
Female	38%	19

In table-3 shows causes of large gut obstruction in this study where various cases of large bowel obstruction highest incidence was due to Volvulus (46%). Next common cause was neoplasm (36%) and third most common cause wasfecal Impaction (8%). The following table is given below:

Table-3: Causes of large gut obstruction in this study

Causes	Number of cases	Percentage
Volvulus	23	46
Neoplasm	18	36
Fecal impaction	4	8
Tuberculosis	2	4
Pseudo obstruction	1	2
Intussusception	1	2
Bands and adhesions	1	2

In table-4 shows distribution of cases according to site of lesion (n=50).Out of 23 cases of volvulus, 20 cases (86.96%) were sigmoid volvulus. Among the cases of neoplasm, rectal neoplasm were more common (27.77%), fecal impaction were most common in rectum (75.00%). The following table is given below:

Table-4: Distribution of cases according to site of lesion

Cases	Sites	Number of cases	Percentage
Volvulus	Sigmoid	20	86.96
	Cecum	3	13.04
Neoplasm	Rectum	5	27.77
	Recto sigmoid	4	22.22
	Sigmoid colon	2	11.11
	Cecum	2	11.11
	Ascending colon	1	5.55
	Descending colon	2	11.11
	Anus	1	5.55
	Neoplasm	1	5.55
Fecal impaction	Rectum	3	75
	Sigmoid colon	1	25
Tuberculosis	Cecum	1	50
	Rectum	1	50
Pseudo obstruction	Cecum	1	2
Intussusception	Sigmoid colon	1	2
Bands and adhesions	Colon	1	2

In table-5 shows treatment procedures (n=50) of the patients. 4 patients (8%) were treated conservatively and different operative procedures carried out for the rest of the cases. Hartmann's procedure was done in most11 cases (22.00%) and loop colostomy was done in 8 cases (16.00%). The following table is given below:

Table-5: Treatment procedures (n=50) of the patients

Procedures	Number of cases	Percentage
Conservative	4	8
Right hemicolectomy	4	8
Extended right hemicolectomy	1	2
Transverse colectomy	2	4
Left hemicolectomy	7	14
Hartmann's procedure	11	22
Paul-Makulicz procedure	6	12
Colostomy alone	8	16
Decompression	6	12
Adhesiolysis	1	2

In table-6 shows histological findings where most of the neoplasms were adenocarcinoma. The following table is given below in detail:

Table-6: Histological findings of patients

Disease	Number of patients	Result
1. Neoplasm		
(a) Growth in cecum	2	Adenocarcinoma
(b) Growth in colon	10	Adenocarcinoma
(c) Growth in rectum	3	Adenocarcinoma
(d) Growth in anus	1	Squamous cell carcinoma
2. Tuberculosis		
(a) Lesion in cecum	1	Tuberculosis
(b) Lesion in rectum	1	Tuberculosis
3. Intussusception	1	Hyperplastic polyp

Table-7 shows the postoperative complications where wound infection occurred in 8 cases (50.00%),chest complications in 6 cases (56.25%), wound dehiscence in 2 cases, stoma related complications in 7 cases (43.75%), anastomotic leakage, fecal fistula, septicemia occurred in 1 case (6.25%) each. The following table is given below:

Table-7: The post-operative complications

Complications	Number of Patients	Percentage
Wound infection	8	50.00
Wound dehiscence	2	12.50
Chest complications	6	37.50
Stoma related complications	7	43.75
Anastomotic leakage	1	6.25
Fecal fistula	1	6.25
Septicemia	1	6.25

More than one complication was observed among few patients

In table-8 shows duration of hospital stay where 17 patients (37.77%) left hospital within 7-10 days, 12 patients (26.66) within 11-15 days, 7 patients (15.55%) within 16-20 days, 4 patients (8.88) within3-6 days and 5 patients (11.11%) stayed in the hospital for more than 21 days. The following table is given below:

Table-8: Duration of hospital stay

Duration (Days)	Number of patients	percentage
3-6	4	8.88
7-10	17	37.77
11-15	12	26.66
16-20	7	15.55
>21	5	11.11

In table-9 shows outcome of patients with large gut obstruction. Total 50 patients were admitted, out of these 29 patients (58%) were cured without complication, 16 patients (32%) were cured in spite of some complications and 5 patients (10%) expired. The following table is given below:

Table-9: Outcome of patients with large gut obstruction

Outcome	Number of patient	Percentage
Cure without complication	29	58
Cure with complication	16	32
Death	5	10

DISCUSSION

Patients were treated conservatively and surgically. Operations were performed with the primary objective of saving life by the simplest procedure consistent with ultimate recovery. Adequate exposure was achieved by a midline incision. The further policy was considered according to the site of obstruction, the nature of obstruction, causes of the obstruction and the viability of the gut.

Various operative procedures like right hemicoloctomy, extended right hemicoloctomy, transverse colectomy, left hemicoloctomy, Hartmann's procedure and Paul-Makulicz procedure, colostomy, decompression, adhesiolysis were carried out. Hartmann's procedure was done in 11 patients (22.00%), colostomy in 8 patients (16.00%). left hemicoloctomy in 7 patients (14.00%), Paul-Mikulicz procedure in 6 patients (12.00%). It was found that Hartmann's procedure was suitable in volvulus and loop colostomy was suitable in case of large gut obstruction due to neoplasm for temporarily relief. All patients were counseled before operation especially for stoma [6, 7].

After operation histopathological examinations were done and found most of theneoplasms were adenocarcinoma (15 cases), single patient was squamous cellcarcinoma, 2 patents were tuberculosis and one patient was Intussusception due tohyperplastic polyp. In all study it was found that 95% of malignancies in large gut weredue to adenocarcinoma which was similar in this study [7].

Regarding the duration of hospital stay, 17 patients went home within 7-10 days 12patients within 11-15 days and only 5 patients stayedsecond surgery in the form of secondary suture were done. Long term follows up of the patients were beyond the scope of this study. Which is supported by other studies [8-13].

The mortality rate in this study recorded was 5 patients (10%) among 50 patients (3) because of obstruction with advanced carcinoma, rest 2 were dueanastomotic leakage each), which is less as compared to other studies [14, 15]. This maybecause of meticulous approach towards resuscitation, proper peritoneal washnormal saline and judicious antibiotic coverage against aerobes & anaerobes.

LIMITATIONS

- Very limited scope and time for the study.
- Collection of data from limited sample.
- No previous experiences regarding this type of study.
- There were no easily available books, journals and research paper regarding large gut obstruction in ourcountry.
- Investigations facilities and economic solvency were not up to the mark.

CONCLUSION

From our study we can say that, a careful approach is required to avoid the increased morbidity and mortality associated with delay in the diagnosis of gangrenous obstruction. The study confirmed that the single most important antecedent of a grave prognosis in large gut obstruction is late presentation of the patient. It is concluded that increasing the patient awareness will help to decrease the incidence of large gut obstruction significantly.

REFERENCES

1. Dunn JT, Hall JW Berne TV., roentgenographic contrast studies in acute small bowel obstruction, Arch. Surg, 1984; 119:1305-1308.
2. Jones RC. Intestinal obstruction. In: Sabiston DC. (editor) Sabiston's Textbook of Surgery, Philadelphia, 13th edition, W.B. SAUNDERS COMPANY. 1997:915-922.
3. Decker GAG, De Plesis DJ. The large bowel, and canal and ischiorectal fossa. In Decker GAG, De Plesis DJ. (editor) Lee Me Gregor's Synopsis of Surgical Anatomy, oxford UK, 12th edition, Butterworgth-Heinemann, 1996:78
4. Janquelra LC, Cameiro J, Kelly. The small and large intestine. In Janquelra LC, Cameiro J, Kelly RO. Basic Histology, London UK, 8,h edition, Prentice-Hall international Inc. 1995:249-301.
5. Guyton AC, Hall JE. Gastrointestinal tract, In: Guyton AC, Hall JE. (editor) textbook of Medical Physiology, Philadelphia, 9th edition, W.B. Saunders Company. 1996: 753- 807.
6. Ganong WF. Gastrointestinal function. In: Ganong WF. (editor) Review of Medical Physiology, Connecticut, 21st edition, Appleton & Lange. 1999: 472-516.
7. Mae Minn RMH. Abdomen. In Mac Minn (Editor), Last's Anatomy Regional and Applied, Edinburgh UK, 10^{m} Edition, Churchill Livingstone, 1999: 215-320.
8. Russell RCG, Williams NS, BULSTRODE CJK. Intestinal obstruction. In Russell RCG, Williams NS, BULSTRODE CJK. (editors) Baily & Loves Short textbook of Surgery, London UK, 25th edition, Arnold, 2008: 1188-1203.
9. Philips RK, Hittinger R, Fry JS. Malignant LBO. Br J. Surg. 1985 Apr; 72(4):296-302 [abstract]
10. Kirk RM, Williamson RCN. Laparotomy: elective and emergency. In: Kirk RM. (editor) General surgical operations. Edinburgh UK, 3rd edition, Churchill Livingstone. 1994: 41-165.
11. Bharucha AE. Acute, toxic, and chonic. Curr Treat Options Gastroenteral. 1999;2:517
12. Ahmed M, Mahmood TR, Ansari AS, Ahmed I, Ahmed M. Spectrum of mechanical obstruction in adult. JSP (International) 6(4); Oct- Dec. 2001:19-21.
13. Sadler TW. Digestive system. In: Sadler TW (editor) Langman's Medical Embryology. Baltimore, Maryland USA, 8th edition, Williams & Wilkins. 2000: 270-303.
14. Mlshra SB, Sahoo KP. Primary resection and anastomosis for volvulus of the sigmoid colon. Journal of Indian medical association. 1986;84:265-8.
15. Khan JS, Alam J, Hasan H, Iqbal M. pattern of intestinal obstruction, a hospital based study. Pak armed forces Med J Dec. 2007;57(4):295-9.