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Study Of Acute Intestinal Obstruction Secondary To Adhesion -A Cross Sectional Study Among Patients Attending Tertiary Care Centre.

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ABSTRACT

The present study aimed to compare the outcome of surgical and conservative managements of small bowel obstruction. The rates of recurrence, hospitalization, duration of hospital stay and the number of patients who were operated post conservative management were compared. All patients admitted with an episode of adhesive small bowel obstruction in Tertiary Care Hospital. This study includes 60 patients who are with episode of adhesive small bowel obstruction. The results from the study are similar to that of Landercasper et al whereas rehospitalization rates were statistically significant ($p<0.005$) and different between conservative (38%) and surgical management groups (21%). The study reported operation rates of a new episode of small bowel obstruction of 17% in conservative compared to 10% in surgical management groups with p-value <0.005. The decision to operate should also take into account the evolution of the clinical status and laboratory values, additional CT findings (e.g., volvulus, transition zone, reduced contrast enhancement), as well as the patient's general condition, comorbidities, and surgical history.

Keywords: acute intestinal obstruction, adhesion, medical emergency

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INTRODUCTION

Meckel's diverticulum may also invaginate into the ileum and then into the colon[16]. Another condition is the volvulus which is the axially twisted portion of the gastrointestinal tract around the mesentery of the colon that may result in varying degrees of luminal obstruction and may lead to severe consequences like blood supply cut off, ischemia, infraction and perforation. Gall stone ileus is a mechanical obstruction due to the passage of gallstones through biliary-enteric fistula from the biliary system. The stones gets impacted in the lumen of the bowel [1-3]. When Meckel's Diverticulum gets incarcerated in an external hernia, it is called as Littre's hernia [4]. The present study aimed to compare the outcome of surgical and conservative managements of small bowel obstruction. The rates of recurrence, hospitalization, duration of hospital stay and the number of patients who were operated post conservative management were compared.

MATERIAL AND METHODS

All patients admitted with an episode of adhesive small bowel obstruction in Tertiary Care Hospital. This study includes 60 patients who are with episode of adhesive small bowelobstruction.

Inclusion criteria

All patients with an episode of adhesive small bowel obstruction irrespective ofage and sex.

Exclusion criteria

- Incarcerated abdominal wall hernia
- Adynamic Obstruction
- Inflammatory bowel disease
- Radiation induced intestinal fibrosis
- Peritoneal carcinomatosis

The material for the study was taken from the cases admitted in the surgical ward of the Department of General Surgery, Tertiary Care Hospital, who presented with episode of adhesive small bowel obstruction.

RESULTS

A single center study to evaluate the clinical outcome in acute adhesive small bowel obstruction after surgical or conservative management among 60 patients who are with episode of adhesive small bowel obstruction revealed the following results. Forty-five patients were managed using surgical methods while fifteen of them were managed through conservative measures. The mean age of the patients in surgery group (n=45) is 50.2 years (S.D=11.78) [range= 28-75 years] while the mean age ofthe patients in the conservative group (n=15) is 50.73 years (S.D=11.11) [range=37-72 years]. The overall (N=60) mean age was 50.33 years (S.D=11.52) [range=28-75]. Majority of the patients were males (n=42, 70%) while others were females (n=18, 30%). The mean pain score among 60 patients was 4.85 (S.D=2.02) [range=1-10]. All of them had past history of previous surgery.

Out of 60 patients, 45 of them were surgically managed while of themconservativelymanaged. The following figure shows the distribution of the patients.

Table 1: Laboratory findings of the participants

TC	Mean	S.D	Range
Conservative (n=15)	7120	1592	4800-11500
Surgery (n=45)	15400	1999.38	11200-21000
CRP	**Mean**	**S.D**	**Range**
Conservative (n=15)	49.07	9.37	37-67
Surgery (n=45)	86.489	5.8	77-97

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The following tables and figures show the duration of hospital stay in the two groups. The hospital stay was higher in the conservative group with a mean of 14.53 days (S.D=2.29) ranging between 12-18 days while the surgery group had a lower duration of hospital stay of 6.82 days (S.D=0.89) ranging between 6-8 days.

Table 2: Duration of hospital stay

	Mean	S.D	Range
Conservative (n=15)	14.53 days	2.29	12-18
Surgery (n=45)	6.82 days	0.89	6-8

Table 3: History of Previous Surgery (Surgery Group)

History of Previous Surgery (Surgery Group)	Frequency	Percent
Appendicectomy	6	13.3
Emergency Laparotomy for Perforation	1	2.2
Hysterectomy	3	6.7
Laparotomy - obstruction	9	19.8
Laparotomy - adhesiolysis	2	4.4
Laparotomy - perforation	8	17.6
Laparotomy - tumour excision	6	13.3
LSCS	4	8.9
Umbilical hernia repair	6	13.3
Total	45	100.0

Table 4: History of Previous Surgery (Conservative Group)

History of Previous Surgery (Conservative Group)	Frequency	Percent
Appendicectomy	1	6.7
Hysterectomy	5	33.3
Laparotomy - obstruction	2	13.3
Laparotomy - perforation	2	13.3
Laparotomy- adhesiolysis	1	6.7
LSCS	4	26.7
Total	15	100.0

Table 5: Readmission managem

	Conservative	Surgery
Conservative (n=10)	2	8
Surgery (n=16)	14	2

DISCUSSION

The present study compared the outcomes of treatment between conservative and surgical management of the patients with acute small bowel obstruction. The patients treated with surgery require lesser rehospitalization and less likely to suffer from the everyday symptoms at home. Surgery for small bowel obstruction does not necessarily reduce the recurrence of small bowel obstruction [5-7].

The results from the study are similar to that of Landercasper et al where a rehospitalization rates were statistically significant ($p<0.005$) and different between conservative (38%) and surgical management groups (21%) [8]. The study reported operation rates of a new episode of small bowel obstruction of 17% in conservative compared to 10% in surgical management groups with p-value <0.005. One of the reasons why Landercasper et al reported a larger rate of recurrence may be attributed to the inclusion of patients by malignancy and inflammatory bowel disease.

Fevang et al said that surgery reduces the rate of recurrence with a relative risk of 0.55, 95% CI, 0.35-0.86 [9]. The study also concluded that risk of managing operatively for a new case of small bowel

obstruction is the same irrespective of the initial management choice with a relative riskof 0.79; 95%CI, 0.39-1.59.

The results from this study related to the morbidity of the patients with small bowel obstruction is in concert with previous studies [8-12]. The post-operative mortality is not consistent in the studies as different factorsattributed to the mortality rates. The present study is similar to the previous studies [9-12]. The modality of treatment has no effect on the mortality rate of the patients.

The recurrence of symptoms were higher in the patients who were treated conservatively. This warrants an important clinical decision whether to manage conservatively or operatively.

Considering the risk-benefit analysis, the benefits of surgical management are higher with better relief of symptoms and lower recurrence rates. But with advanced age and other comorbidities, surgical management poses a question whether it is as effective than conservative management [12]. This calls for the customization of treatment based on sound clinical decision based on the various parameters like the general condition of the patient, clinical signs and symptoms, etc. The decision can be arrived by combining the severity score of SBO and the APACHE II scores [13] that indicate the medical condition of the patient.

Surgical management is known to decrease the morbidity of the patient [10-14]. But no specific studies show the difference between early surgical management and surgery after 24-hours. Considering this, any patient with SBO can be conservatively managed within the first 24 hours and can be decided to operate after observation for 24 hours. When there are no signs of severity, conservative management can be attempted. When there is no recovery within 24 hours, an oral water-soluble contrast test can be done and taken up for surgery.

CONCLUSION

The decision to operate should also take into account the evolution of the clinical status and laboratory values, additional CT findings (e.g., volvulus, transition zone, reduced contrast enhancement), as well as the patient's general condition, comorbidities, and surgical history.

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