Original Article

Which is Better in Care of Volvulus Sigmoid Colon? Primary Repair or Double Barrel Colostomy

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ABSTRACT

Background: Volvulus refers to torsion of a segment of the alimentary tract, which often leads to bowel obstruction. Sigmoid volvulus is the most common form of volvulus of the gastrointestinal tract and this condition is responsible for 8% of all intestinal obstruction. Sigmoid volvulus is particularly common in elderly persons.

Objective: To compare the outcome of double barrel colostomy versus primary repair after on table lavage in cases of volvulus of sigmoid colon.

Design of Study: Comparative Study.

Place and Duration of Study: This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan.

Patients and methods: This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan. A total of 100 patients were included in the study.

Results: Majority of the patients in the age group 41-50 years. Out of 100 patients, 80 (80%) were male and 20 (20%) were female. Out of 100 patients, 40 (40%) belonged to Baluchistan, while 30 (30%) from DG Khan, 10 (10%) from Sindh and remaining 20 (20%) from Multan.

Conclusion: It is concluded from the study that morbidity and hospital stay was significantly lower in patients with Group-A (sigmoidectomy and primary anastomosis after on table lavage) as compared to group-B (sigmoidectomy + double barrel colostomy), so economic burden and morbidity related to colostomy can be prevented.

Key words: Outcome, Colostomy, Morbidity.

INTRODUCTION

Volvulus refers to torsion of a segment of the alimentary tract, which often leads to bowel obstruction. Sigmoid volvulus is the most common form of volvulus of the gastrointestinal tract and this condition is responsible for 8% of all intestinal obstruction. Sigmoid volvulus is particularly common in elderly persons. Patients present with abdominal pain, distension and absolute constipation[1]. Sigmoid volvulus is responsible for 5-7% of all intestinal obstruction and is the 3rd leading cause of large bowel obstruction[2].

Sigmoid volvulus is particularly common in South America, Africa and parts of Asia where the consumption of high fibre diets results in a long, redundant sigmoid colon. This condition accounts for 79% of all intestinal obstruction at a Bolivian hospital[3].

Sigmoid volvulus is common cause of large gut obstruction. It is reported that 30% of intestinal obstructions were caused by sigmoid volvulus in Pakistan, 25% in Brazil and 20% in India[4]. When early laparotomy is performed the gut is usually found viable in most (80%) of the patients[5]. In United States, caecal and sigmoid volvulus accounts for 52% and 43% resectively[6].

Accurate diagnosis is essential for optimal management. Delay in diagnosis and treatment may lead to sigmoid ischemia, infarction, perforation, peritonitis and septicemia resulting in mortality up to 60%[7].

Flexibility sigmoidoscopy is the preferred mode of decompression as it allows direct visualization of the mucosa to assess its viability. However, sigmoidoscopy should not be performed in patients who have developed clinical evidence of bowel gangrene etc[8].

This study was carried out to compare the outcome of double barrel colostomy versus primary repair after on table lavage in cases of volvulus of sigmoid colon.

PATIENT AND METHODS

This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan. A total of 100 patients were included in the study. Patients were divided equally in two groups. Group-A (sigmoidectomy and primary anastomosis after on table lavage) and group-B (sigmoidectomy + double barrel colostomy).

RESULTS

Majority of the patient in the age group 41-50 years Table No.1).

Out of 100 patients, 80 (80%) were male and 20 (20%) were female (Table No.2).

Out of 100 patients, 40 (40%) belonged to Baluchistan, while 30 (30%) from DG Khan, 10 (10%) from Sindh and remaining 20 (20%) from Multan (Table No.3).

Table-No.1: Age distribution

Age (years)	No. of patients	Percentage
0-15	05	05.0
16-30	10	10.0
31-40	15	15.0
41-50	40	40.0
51-60	10	10.0
61-70	20	20.0

Table No.2: Sex distribution

Sex	No. of patients	Percentage
Male	80	80.0
Female	20	20.0

Table No.3: Area wise distribution of patients

Area	Male	Female	%age
Baluchistan	30	10	40.0
DG Khan	15	05	20.0
Sindh	07	03	10.0
Multan	16	04	20.0

DISCUSSION

Sigmoid volvulus is a common cause of large gut obstruction in many developing countries like India, Iraq, Turkey, parts of Africa and South America. These parts of the world are sometimes referred to collectively as the volvulus belt. In these countries sigmoid volvulus accounts for 25-30% of intestinal obstruction[9]. Sigmoid volvulus is the most common cause of acute large gut obstruction in NWFP, Pakistan[10].

It is reported that 30% of the intestinal obstructions were caused by sigmoid volvulus in Pakistan, 25% in Brazil, 20% in India, 17% in Poland and 16% in Rusia[3]. In developed countries like Europe and North America it accounts for only 20% of intestinal obstruction. It accounts for 30% in Eastern Europe and Scandinavia[11]. It is rare disease in United Kingdom and affects mainly the elderly perople[12].

There is a significant racial difference in incidence of volvulus of sigmoid colon within a defined geographical area. It is more common in blacks than in whites in United States[13]. In Pakistan it is more common in Pathans in NWFP[14].

Most of the patients in present study were inhabitants of rural areas and were having poor socio-economic status. The higher incidence in rural areas has also been reported in many other studies from developing countries[15].

In present study there were 80 males and 20 females. This is consistent with other series from the developing countries. The lower incidence in females is thought to be due to wider female pelvis. In females higher incidence occurs in pregnancy when sigmoid volvulus has no space to de-rotate spontaneously[16]. Male to female ratio of 3.3:1 was reported in a study[12].

Genetic factors may be important in predisposing to the development of sigmoid volvulus. In present study of 100 cases, 40 were from Baluchistan. Marked tribal differences have also been noted in other parts of the world such as the high incidence among the Beganda tribe in Uganda and the high incidence in blacks than in whites in USA[3]. Most of the patients in present series were inhabitants of rural areas who take high fibre diet and live in the hilly areas. Excessive gas production as a result of certain types of diet might play a role in the development of sigmoid volvulus in people living at high attitudes[17]. In present study the clinical features were comparable to the usual pattern. Abdominal pain was present in 80% of the cases.

Most authors agree that the definitive treatment of sigmoid volvulus is sigmoido-scopy with or without anastomosis. High morbidity and mortality rates are reported following resection and colostomy compared with primary resection and anastomosis[18]. We performed resection and double barrel colostomy in one group, resection and primary anastomosis after on table lavage in other group. Avoidance of a formal colostomy in the author's circumstances is desirable in view of the attitude of their society towards patients with a colostomy and lack of appropriate toilet facilities. Furthermore, colostomy has its own risks of complications and death[19].

Recently immediate resection has become popular and results have been favourable with an acceptable mortality and morbidity[20]. In another study, out of 223 patients with colonic trauma 168 were primary repaired (group-A) and 55 under colostomy (group-B). Intra-abdominal septic complication occurred in 5.9% of group-A and 10.9% of group-B patients[21].

In present study total complications, total infectious complications, abdominal infections and wound complications, all favoured primary anastomosis. Minimum hospital stay in group-A was 7 days and maximum was 12 days in group-B minimum was 12 days and maximum was16 days. These results also comparable to another study in which the primary inpatients stay was mean of 12.7 days with primary repair and 16.1 days for diverted patients not including the stay for colostomy closure.

CONCLUSION

It is concluded from the study that morbidity and hospital stay was significantly lower in patients of group-A (sigmoidectomy and primary anastomosis after on table lavage) as compared to group-B

(sigmoidectomy + double barrel colostomy), so economic burden and morbidity related to colostomy can be prevented.

REFERENCES

1. Atamanalp SS, Yildirgan MI, Basoglu M. Clinical presentation and diagnosis of sigmoid volvulus: outcome of 40 year and 859 patient's experience. J Gastroenterol Hepatol 2007.
2. Kedir M, Kotisso B, Mcssele G. Ileosigmoid knotting in Gondar teaching hospital, North-West Ethiopia. Med J 1998; 36: 255-60.
3. Grossmann RM, Longo WE, Stratton MD. Sigmoid volvulus in department of Veterans Affairs Medical Centre. Dis Colon Rectum 2000; 43: 414-8.
4. Anand AC, Sashindran VK, Mohan L. Gastrointestinal problems at high attitude. Trop Gastroenterol 2006; 27: 147-53.
5. Ballantyne GH, Brander MR. Sigmoid volvulus incidence and mortality. Ann Surg 1985; 202: 83-92.
6. Bach O, Rudloff U, Post S. Modification of mesosigmoidoplasty for non-gangrenous sigmoid volvulus. Word J Surg 2003; 27: 1329-30.
7. Mangiantc EC, Croce MA, Fabian TC. Sigmoid volvulus. A four decade experience. Am J Surg 1989; 55: 41-4.
8. Brothers TE, Strodel WE, Eckhauser HE. Endoscopy in colonic volvulus. Ann Surg 1987; 206: 1-4.
9. Gibney EJ, Sigmoid volvulus in rural Ghana. Br J Surg 1989; 76: 737.
10. Zarum M, Ahmad I, Wahid D, Aslam V. Management of volvulus colon by resection and single layer primary anastomosis. J Surg Pak 2003; 8: 2-4.
11. Oren D, Atananalp SS, Aydinli B, Vildirgan MI, Basoglu M, Polat KY et al. Management of the sigmoid colon volvulus and the safety of primary resection. Dis Colon Rectum 2007; 50: 489-97.
12. Madiba TE, Thomson SR. The management of sigmoid volvulus. J R Coll Surg Edinburgh 2000; 45: 74-80.

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