

MANAGEMENT OF VIABLE SIGMOID VOLVULUS BY MESOSIGMOIDOPLASTY

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ABSTRACT

Background: Mesosigmoidoplasty is a non-resective procedure for viable sigmoid volvulus. It corrects the main pathogenetic factor, the narrow but long mesosigmoid. This study was conducted to know the outcome of mesosigmoidoplasty in cases of viable sigmoid volvulus.

Material & Methods: This prospective study was conducted from July 2004 to June 2008 at District Headquarter Teaching Hospital D.I.Khan, on patients admitted with large gut obstruction due to viable sigmoid volvulus. After initial investigations and resuscitation, non-operative decompression was tried in all cases. Successfully decompressed patients underwent elective laparotomy and the rest had emergency laparotomy and mesosigmoidoplasty. After their discharge from hospital, patients were followed up for 6 months.

Results: Thirty-nine patients presented with viable sigmoid volvulus; 35 males and 4 females, with male to female ratio of 8.7:1. Age range was 48-70 years. Thirteen (33%) patients had successful decompression. Two patients refused surgery after successful non-operative decompression and were dropped from the study. Out of the remaining 37 patients 11(30%) patients had mesosigmoidoplasty on elective list and 26(70%) had emergency operation for mesosigmoidoplasty. Average hospital stay was 4 days (2-6 days). Post-operative complications were wound infection in 1(2.7%) and paralytic ileus in 3(8%) cases. During 6 months follow-up, only 1(2.7%) patient had recurrence.

Conclusion: Mesosigmoidoplasty is a definitive procedure for viable sigmoid volvulus with low rates of mortality, morbidity.

Key words: Sigmoid volvulus, Mesosigmoidoplasty, Colon.

INTRODUCTION

Sigmoid volvulus is the most common form of volvulus of the gastrointestinal tract and is a common cause of large gut obstruction in adults.¹ Sigmoid volvulus has variable geographical and racial distribution. It is very common in the developing countries like Africa, South Asia and in India it accounts for approximately 30% of acute intestinal obstructions.² In Western Europe and North America it is far less common, accounting for only 2-4% of intestinal obstruction.³

There is marked overall preponderance of male patients with volvulus of sigmoid colon,⁴ but in developed countries there is less marked male preponderance. Etiology of sigmoid volvulus remains speculative. In developed nations chronic constipation and in developing nations high fiber diet is considered as major factor involved.⁵⁻⁸

The main predisposing factor for sigmoid volvulus is long, redundant sigmoid colon and its elongated mesentery which is prone to twist on itself. To correct this predisposing factor Tiwary & Prasad⁹ described a surgical procedure to prevent its recurrence. This technique was later modified

to include all layers of mesocolon and create a window in mesocolon from root to apex, preserving its blood supply. This window is then closed transversely.¹⁰

The aim of this study was to know the outcome of mesosigmoidoplasty in cases of viable sigmoid volvulus.

PATIENTS AND METHODS

This prospective study was conducted on patients with sigmoid volvulus admitted in surgical unit of District Headquarter Teaching hospital, Dera Ismail Khan, from July 2004 to June 2008. All patients were admitted on emergency basis with abdominal pain, distension and constipation. Plain abdominal radiographs helped in diagnosis. In some cases water soluble contrast enemas were performed to aid in the diagnosis.

Patients with clinical evidence of gangrene, perforation and peritonitis were excluded from the study.

After necessary investigations and initial resuscitation all patients were given a trial of non-

operative de-rotation with the help of rectal tube or rigid sigmoidoscope.

Successfully decompressed patients underwent elective laparotomy and the rest had emergency laparotomy.

Mesosigmoidoplasty was performed on all patients with viable sigmoid colon. After their discharge from hospital, patients were followed up for 6 months.

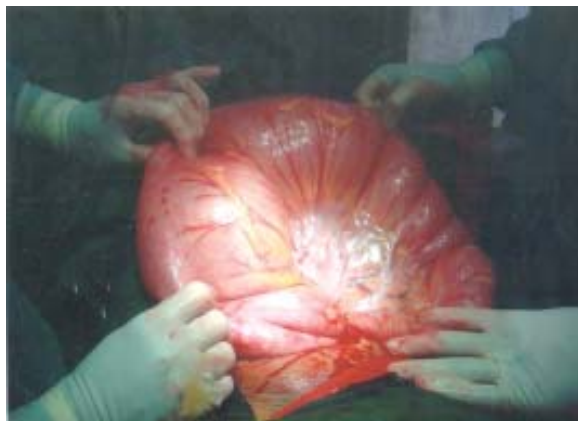


Fig. 1, 2, 3: Showing operative findings of sigmoid volvulus.

RESULTS

During the study period 39 patients presented with viable sigmoid volvulus; 35 males and 4 females, with male to female ratio of 8.7:1. Age range was 48-70 years (Mean 63 years).

Thirteen (33%) patients had successful decompression. Two patients refused surgery after successful non-operative decompression and were dropped from the study. Out of the remaining 37 patients 11 (30%) patients had mesosigmoidoplasty on elective list and 26 (70%) had emergency operation for mesosigmoidoplasty. Figures 1 to 3 show the pictures of operative findings in a patient.

Average hospital stay was 4 days (2-6 days). Post-operative complications were wound infection in 1 (2.7%) and paralytic ileus in 3 (8%) cases. During follow-up of 6 months, only one patient (2.7%) had recurrence.

DISCUSSION

Volvulus of the sigmoid colon has been recognized since ancient times. It is the most common cause of strangulation of the colon and is also responsible for up to 7% of all intestinal obstruction in western countries.¹¹ It occurs more commonly in the elderly individuals, particularly in those with some neurological disorder.^{1,12} It is rare in children.¹³ Literature reports its highest incidence in the 6th and 7th decade of life.^{14,15} In our study most of the patients were in their 6th decade with mean age of 63 years. In our part of the world there is marked male preponderance and high male to female ratio is reported in Pakistan, ranging from 6:1 to 11.5:1.¹⁶⁻¹⁸ We had similar finding of male to female ratio of 8.7:1. In our study the diagnosis was mainly based on clinical and radiological findings. Diagnosis was later confirmed on operative findings. Diagnostic accuracy in this study was 92% which is comparable to literature.¹⁴

It is important to have quick and urgent decision regarding either non-operative de-rotation or definitive surgical procedure to prevent the development of gangrene. These patients usually present late and the main reason is its sub-acute picture and different defecation habits.^{5,14,19} In our study the duration of symptoms was 2-6 days.

Although international literature supports initial endoscopic non-operative de-rotation in the management of sigmoid volvulus, if there is no clinical evidence of gangrene, perforation and peritonitis.^{20,21} This approach is not always successful and even in western countries high failure (up to 50%) is reported.²⁰ But this conservative approach has very high recurrence rates.²² Thus definitive surgical procedure is the best treatment option with

or without early non-operative derotation.¹⁵ This also happened in our study, 2 of our patients refused surgery after successful non-operative decompression and were excluded from the study. One patient came back after 3 months with recurrence of sigmoid volvulus and had developed gangrene.

In this study mesosigmoidoplasty was performed as a definitive non-resectional surgical procedure for viable sigmoid volvulus. Mesosigmoidoplasty is a better option than resectional procedures in viable sigmoid colon in many aspects. It is technically simple procedure. As there is no resection and anastomosis, patients can be allowed early oral feeding even 12 hours after surgery, hospital stay is short (3-6 days in this study), wound infection rate is very low 2.7%. This study reported very low recurrence rate of 2.7% for this procedure. There were no deaths recorded in this study.

CONCLUSION

Mesosigmoidoplasty is a definitive non-resectional procedure for viable sigmoid volvulus, which can be easily performed with minimum morbidity and mortality. This procedure has very low recurrence rate.

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