SIGMOID VOLVULUS : Management by resection and primary anastomosis.

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In a retrospective study, 72 patients with sigmoid volvulus were treated by resection and primary anastomosis during a three and half year period. Patients with sigmoid volvulus but no clinical evidence of gangrene were included in this review. No attempt was made at sigmoidoscopy and deflation prior to performing an emergency laparotomy. The outcome of surgery was assessed in terms of perioperative complications and postoperative mortality. There were four (5.5%) cases of anastomotic leak and four deaths giving a mortality rate of 5.5%. We believe that resection and primary anastomosis should be the operation of choice for most patients with sigmoid volvulus without gangrene.

Introduction

Volvulus of the sigmoid colon , although uncommon in the west [1,2], is seen frequently in Africa, Russia and India where it accounts for 20-50% of intestinal obstructions. In the United States, colonic volvulus accounts for only 3-5% of all cases of intestinal obstruction.

Various approaches to the management of sigmoid volvulus have been reported with varying results. Non-operative procedures have included derotation with proctoscopy or sigmoidoscopy[3,4], coloplasty[5] and resection with colostomy. This paper describes the experience gained in the management of sigmoid volvulus with resection and primary anastomosis.

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Patients and methods

This was a prospective descriptive study done at the Central Hospital in Beira , Mozambique between January 1996 and June 1999. A total of 82 patients with simple sigmoid volvulus were treated during that period. Twelve patients with gangrenous sigmoid colon were excluded from this study.

The presenting clinical features were noted on admission. Plain abdominal radiographs were taken in the erect postion. A laparotomy was performed under general anaesthesia. The viable distended sigmoid loop was delivered out of the wound and untwisted. The viability of the colon was confirmed before deflating the bowel by trocar aspiration. The derotated deflated sigmoid colon was then resected and a primary anastomosis done. Postoperatively patients were followed up and observed for any possible complications.

Results

Seventy nine (96%) of the 82 patients were males and only three (4%) were females. The patients' ages ranged between 20-70 years. The peak was in the 5th decade of life (Table 1).

Abdominal distension (100%), constipation (95%), and nausea and vomiting (80%) were the commonest symptoms. The mean interval between the onset of symptoms and admission was 48 hours. The plain abdominal radiographs showed the classical ' *bent inner tube sign'* in 98% of cases.

TABLE 1 Age distribution of patients.

Age in years	No of patients	Percentage
20 - 29	16	19.5
30 - 39	20	24.4
40 - 49	25	30.5
50 - 59	14	17.1
60 and above	7	8.5
TOTAL	82	100

At laparatomy, 72 patients were found to have a viable distended sigmoid colon with volvulus of the mesocolon base. The mean operation time was 110 minutes. Resection and primary anastamosis was easily performed. Wound sepsis was noted in 10% of cases. Anastomotic leakage was clinically suspected in four patients. All four cases underwent re-operation and had a Hartmann's procedure. They improved after re-operation. There were four postoperative deaths caused by pulmonary embolism (2 cases), hepatic failure (1 case) and in one case AIDS. The median duration of hospital stay was 12 days

Discussion

The main factors responsible for the occurence of the sigmoid volvulus include a long mesentry with a narrow attachment, congenital malformation and chronic contipation. A high fibre diet has also been blamed for the high incidence of the condition in India, Africa And Iran[3,6]. Of all these factors, the increased length and narrow attachment of the mesentry have been found at operation in most patients presenting with sigmoid volvulus [3,6,7].

A variety of surgical approaches have been employed in the management of obstructing lesions of the left colon. The most common are the classical three-stage or the two-stage Hartmann's procedure. The staged operations do, however, have a significant morbidity and mortality and have intrinsic disadvantages for the patient. The formation and subsequent closure of the colostomy alone has its attendant risks. The morbidity of colostomy closure ranges from 5-57% and the mortality rate for closure ranges fron 0-34%[8,9]. Multiple hospital admissions and operations are required with such procedures and entail costs and social disruptions. Coping with a colostomy is a distressing experience and colostomy bags are often unavailable or unaffordable. In general, the African society does not readily accept a colostomy.

In 1955 Gregg[9] reported on his experience with resection and primary anastomosis for volvulus. In 1980 Dudley et al[11] described their succesful experience with an intraoperative lavage technique. In the present study 72 patients underwent a single stage procedure with minimal morbidity and mortality. The anastomotic leakage rate of 5.5% recorded in our review was associated with no deaths.

The technique of resection and primary anastomosis is not uniformally accepted and has received some criticism. It is important to empasize the importance of proper care when handling the distended bowel. In our experience, resection and primary anastomosis constitutes a safe option for the management of simple sigmoid volvulus. It has a low operative mortality and morbidity. We recommend it as the operation of choice in the marjority of patients presenting with acute uncomplicated sigmoid volvulus.

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