

Sigmoid volvulus management in a rural hospital in Ethiopia.

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Seventy nine patients with sigmoid volvulus were managed at Attat Hospital in Central Ethiopia between 1980 and 1993. A total of 25 (32%) of the patients had gangrenous bowel while 54 (68%) had viable sigmoid colon. Seventy three of the patients were managed by resection and primary anastomosis. Two (9%) of the 23 patients with gangrenous bowel who had resection and primary anastomosis died while for those with viable sigmoid colon the mortality rate was 4 % (2 out of 50). The paper discusses the management of sigmoid volvulus both with viable and with gangrenous bowel. It is recommended that whenever possible, resection and primary anastomosis should be the procedure of choice in the management of sigmoid volvulus.

Introduction

Sigmoid volvulus is a common cause of intestinal obstruction in many African countries including Ethiopia. This paper analyses the outcome of management of volvulus of the sigmoid colon in patients presenting with the condition at Attat Hospital which is situated in a rural part of Central Ethiopia. The hospital has a total of sixty-three beds, eight of which are for surgical patients. It serves a population of about 500,000. This review is based on all the patients who presented with sigmoid volvulus between 1980 and 1993.

Patients and Methods

This was a retrospective descriptive study of 79 consecutive patients with sigmoid volvulus admitted to Attar Hospital over a period of 14 years, starting in 1980. The records of all these cases were analysed with regard to the age, sex, findings at operation, operative procedure performed and outcome of surgery.

Results

There were 70 males and nine females (M:F =7.8:1). The youngest patient was aged 25 and the oldest was 75 years old, with a mean age of 53 years. Twenty five (32%) of the patients presented with gangrenous bowel while the rest (68%) had viable gut. The operative procedures performed included derotation alone, resection and primary anastomosis or resection and colostomy (Table 1). Of the 54 with viable bowel, four (7%) were managed with derotation alone. Of these four, one was lost to follow up, while the other three presented with recurrence and were readmitted after 3 months, 8 months and after 8 years. They were managed with resection and primary anastomosis.

Of the 54 patients with viable gut, 50 (93%) were managed by resection and primary anastomosis (Table 2). Of the 25 with gangrenous bowel, 23 (92 %) were managed with resection and primary

TABLE 1. Hospital stay and mortality based on operative procedure performed.

Procedure	No of patients	Hospital Stay	%
Derotation only	4	8	0
Resection and anastomosis	73	10	4
Resection, colostomy	2	28	0
TOTAL	79		4

TABLE 2 Sigmoid volvulus with viable bowel

Procedure	No of patients	Deaths	%
Derotation alone	4	0	0
Resection, anastomosis	50	2	0
TOTAL	54	2	

TABLE 3. Patients with gangrenous sigmoid volvulus

Procedure	No of patients	Deaths	%
Resection, colostomy	2	0	0
Resection, anastomosis	22	2	9
TOTAL	24	2	9

anastomosis. Two (8 %) had resection and a colostomy which was closed later (Table 3) .

The average hospital stay was 8 days for patients managed with derotation alone, 10 days for those having resection and a primary anastomosis and 28 for those who had a colostomy. There were four deaths among the patients who had resection and primary anastomosis, a mortality rate of 5.5%. The mortality among those who had viable gut was 4 % (two deaths out of 50) in comparison with the 9% (two deaths out of 23) among those with gangrenous sigmoid colon. Two deaths occurred on the day of operation, one occurred on the 14th postoperative day and the fourth was after 30 days. Two deaths were attributed to septic shock . One death occurred in a patient with suspected Acquired Immune Deficiency Syndrome (AIDS). No cause of death was apparent in one case. There were no deaths among patients who had derotation alone or resection and a colostomy.

Discussion

Although currently there are several different techniques which are used in the management of sigmoid volvulus, in our series the majority (92%) of the patients were managed with resection and primary end -to -end anastomosis. Although deflation with a rectal tube was not associated with any death, the procedure may rarely be complicated by perforation of the colon. The presence of gangrene may not be recognized and this may have fatal results. Deflation is often followed by significant rates of recurrence and mortality. Shepherd¹ reported a 42% recurrence rate while Gibney² found a 13 % recurrence. Deflation with a rectal tube was not employed in our series.

Laparotomy and derotation without resection also has a significant recurrence rate and each recurrence carries its own risk of death. In our review there were no deaths among the four patients who had such a procedure. Shepherd and Gibney

respectively recorded mortality rates of 16 % and 17 % with such a procedure. A very high recurrence rate of 90 % following either form of reduction has been reported By Hines et al³.

Two of our patients with gangrenous bowel were managed with resection and colostomy. Both survived, but remained hospitalized for nearly a month and were experiencing psychological problems when discharged. Mortality rates of 14% and 45% were recorded by Shepherd¹ for patients with viable and gangrenous bowel respectively.

Our principal method of management was resection and primary anastomosis. Among the 25 patients who had gangrenous bowel, two (8%) died from septic shock on the day of operation. Both had perforated colon with faecal contamination of the peritoneal cavity. Among the 54 patients with viable gut, one suspected of having AIDS developed a faecal fistula. Although this was repaired surgically, the patient died a month later. Another patient died on the 14th postoperative day but the cause of death could not be established. In his series, Shepherd¹ found mortalities of 16% and 50% for patients with viable and gangrenous sigmoid colon respectively.

Conclusion

From our experience of working in a rural hospital with limited resources and facilities, we would like to make a few points which we found useful in managing patients with sigmoid volvulus.

1 Anaesthesia

In a patient with a fairly good blood pressure e.g. 100/80 mm Hg or above, spinal anaesthesia with 2 % lignocaine given at the L3 - L4 level is satisfactory.

If the condition of the patient is very poor, ketamine is preferable.

2. Handling of the bowel

Before the bowel is handled we find it helpful to decompress the distended bowel using a large bore needle connected to suction. Very often the delivery of the bowel out of the wound becomes easier, and this avoids unnecessary trauma to the bowel wall or spillage. We found the use of Metronidazole 500mg in 100mls of water by intravenous infusion to be useful. Even when spillage and peritoneal soiling occurred, our patients recovered without sepsis.

In developing countries, where access to Health Institutions is very limited and where bed occupancy rates are high, resection and primary anastomosis for sigmoid volvulus is recommended provided the surgeon is experienced. Ofiaeli⁴ and other authors have also suggested a similar approach in the management of sigmoid volvulus.

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