An Approach to the Management of Volvulus of the Sigmoid Colon

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SUMMARY

The colon involved with the sigmoid volvulus is much thicker than the normal colon. It is easy to handle and holds sutures well. Patients who have sigmoid-colon volvulus do not have much faecal loading. Most of the distension is gaseous. In the hands of experienced surgeons primary anastomosis can be done after sigmoid colectomy with safety and excellent results.

INTRODUCTION

The peak time interval when patients present with sigmoid volvulus in Harare is from January to April. This is the period when there is an abundance of green mealies which is a much relished dish in Zimbabwe. We believe dietary fermentation and gas production contributes to the aetiology of colon volvulus in Africa. Previously all patients with sigmoid volvulus have been treated by resection combined with a colostomy of either the Hartmann or Mickuliez type. Over the past ten years there has been an attempt to reduce the volvulus using a rectal flatus tube, and if successful resect the colon after a few days. We have tried this method on several patients. Good results were obtained but there was a 25% default rate among our patients. After the volvulus is deflated the patient feels much better and usually sees no reason for undergoing major abdominal surgery. Some patients will refuse operation. These patients will invariably have recurrence of the volvulus. This can occur while they are away from centres where they can receive immediate therapy. During the past five years 1984 to 1988, I decided to perform primary resection and anastomosis on all patients who presented with volvulus of colon if the bowel was viable. This was done whether reduction of the volvulus by a flatus tube was successful or not. The following guidelines were followed;

1. The patient must be well resuscitated and have a normal haemoglobin and serum electrolytes.
2. A stat dose of intravenous gentamycin 80mg and 1 gram of metronidazole suppositories given pre-operative.
3. There must be no tension at the anastomosis. The anastomosis was done in two layers. A continuous chromic catgut suture was used for the internal layer and interrupted silk sutures for the seromuscular layer.
4. The colon must be viable.
5. Patients with gangrenous bowel would be treated by resection of gangrenous colon, and given a colostomy of either Hartmann or Mickuliez type.
6. Post operative patients are monitored by high blood pressure and pulse recording and temperature chart for seven (7) days until they are eating a normal diet and have a bowel action. Repeat laparotomy was advised for unexplained elevation of pulse rate and ileus or any sign of pelvic fluid collection[2,3].

METHOD

The study was carried out over five years. All patients were treated by the author (consultant) or by his registrar and senior registrar who were quite capable with intestinal anatomosis.

All patients admitted to the unit with volvulus of the colon were treated similarly. The patients were treated in the surgical ward as any other surgical patients. Details of name, age, pulse, blood pressure and temperature were recorded. Post operatively par-

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ticular emphasis on pulse observation and prolonged ileus as signs of anastomotic leak were emphasised. Complications were very minimal in those patients who had primary colonic anastomosis. Of note was that there were no anastomotic leaks.

RESULTS

A total of 64 patients with sigmoid volvulus were admitted to this study over a five year period, 1984-1988 inclusive. Thirty patients were found at surgery to have viable sigmoid colon and a primary resection with immediate anastomosis was performed. Table I presents clinical data on these patients and Table II summarizes complications in this group.

Table 1
Clinical Data

Number of Patients	=	30
Average Age	=	40
Age Range	=	17 to 64
Sex	=	2 females, 28 males
Duration of hospital stay		
Average	=	12 days
Range	=	8 to 19 days

Table 2
Complications of Primary Anastomosis

		No.	Percentage (%)
Wound sepsis	=	3	10%
Urinary tract infection	=	2	6,6%
Chest infection	=	1	3,3%
Pelvic abscess	=	0	0
Died	=	0	0

Thirty-four patients presented with gangrenous colon. These patients received resection of the gangrenous colon and colostomy. After eight weeks the colostomies were closed. Table III illustrates that the hospital length of stay was significantly increased, eighteen (18) days, compared to the twelve (12) days in the previous group. Table IV lists the complications found in the second group. Five (5) deaths occurred while no deaths occurred in the viable colon group.

Table 3
Gangrenous Sigmoid Colon

Number of Patients	=	34
Average age	=	40
Age Range	=	21 to 60
Sex	=	All males

Duration of Hospital Stay

Average	=	18 days
Range	=	12 to 28 days

All patients had elective closure of colostomy eight weeks later.

Total duration of stay in hospital does not include period of remission.

Table 4
Complications of Patients with a gangrenous colon

Complication		No.	Percentage (%)
Post operative (died)	=	5	14,7
Adhesive intestinal obstruction (re-operated)	=	3	8,8
Wound sepsis	=	2	5,9
Colocutaneous faecal fistula	=	1	2,9
Colostomy prolapse	=	1	2,9

The patients who admitted with a gangrenous sigmoid colon were already very sick. It is not surprising that those patients had more serious complications than the group with a viable colon.

DISCUSSION

Colostomies and ileostomies give problems in Africa because clean water is not always available, especially in rural areas, leading to gas formation and diarrhoea. Colostomy bags are also in short supply. African society does not accept a person with a colostomy easily. One of our patients was ostracised from the village after a permanent colostomy was performed following abdomino-perineal resection for carcinoma of the rectum. When a colostomy can be avoided and a safe surgical procedure performed then this is the treatment of choice.

The colon involved with sigmoid volvulus is thick and easy to handle. With a viable sigmoid colon, it should be possible to do a resection and anastomosis

without much dissection and tension. Our results show that this procedure is safe and effective without any serious morbidity and no mortality in thirty (30) patients[1].

CONCLUSION

We have demonstrated in 30 consecutive patients that primary anastomosis after sigmoid colectomy for volvulus is safe. It reduces mental suffering from the problems of colostomy. It reduces the duration of hospital stay and as a result reduces the cost to the patient and to the hospital.

It is recommended that this procedure can be done by any surgeon who is capable of doing bowel resection and anastomosis. In those patients found to have a gangrenous colon, sigmoid resection plus colostomy is advised. Most of those patients with gangrene already have septicaemia. Further trauma and prolongation of operation time should be avoided[3,5].

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