

# Colon Resection For Volvulus Recurrence In Chilaiditi's Syndrome: Report Of A Case

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## Abstract

**PURPOSE:** The management of sigmoid volvulus remains controversial. The aim of this study was to evaluate the feasibility of treating sigmoid volvulus by using sigmoid resection. We present a case of severe sigmoid volvulus recurrence at seven month after colon detorsion for volvulus in a patient with Chilaiditi's syndrome who did not respond to medical therapy and required an additional operation by using a single-stage sigmoid resection and anastomosis. **METHODS:** Routine blood and urine tests were done. Upright abdominal radiograph and CT of abdomen before operation showed a markedly dilated transverse and sigmoid colon. Conservative decompression failed and surgical treatment was applied. Preoperative bowel preparation and prophylactic antibiotics were used. The patient underwent single-stage sigmoid resection with descendo-rectal end-to-side anastomosis. **RESULTS:** After the operation the patient had abdominal bloating with vomiting and in a period of treatment he passed stool on the 4th day. Postoperative hospital stay was 10 days. **CONCLUSION:** We suppose that single-stage resection and anastomosis appear to be the treatment of choice in Chilaiditi's syndrome in patients with sigmoid volvulus.

## INTRODUCTION

The management of sigmoid volvulus remains controversial. The aim of this study was to evaluate the feasibility of treating sigmoid volvulus by using sigmoid resection. We present a case of severe sigmoid volvulus recurrence at seven month after colon detorsion for volvulus in a patient with Chilaiditi's syndrome who did not respond to medical therapy and required an additional operation by using a single-stage sigmoid resection and anastomosis.

closed bowel loop and the twisting of mesenteric vessels (whirl sign), which was diagnostic of volvulus (Fig. 3). These imaging findings suggested a sigmoid colon volvulus and Chilaiditi's syndrome.

## REPORT OF A CASE

A 22-year-old man was referred with marked abdominal distension but there were no peritoneal signs. Presenting symptoms were abdominal pain, distension, vomiting, and constipation. He had a long history of such symptoms from early childhood. He had been admitted and nonresective procedures such as detorsion without a colopexy have been used for sigmoid volvulus.

Routine blood and urine tests were normal. On upright abdominal radiograph, the colon was dilated and a distended bowel loop was located beneath the right hemidiaphragm (Fig. 1). A computed tomography showed a markedly dilated transverse and sigmoid colon. Chilaiditi's sign (interposition of the colon between the diaphragm and liver) was present (Fig. 2). Also computed tomographic scans showed the

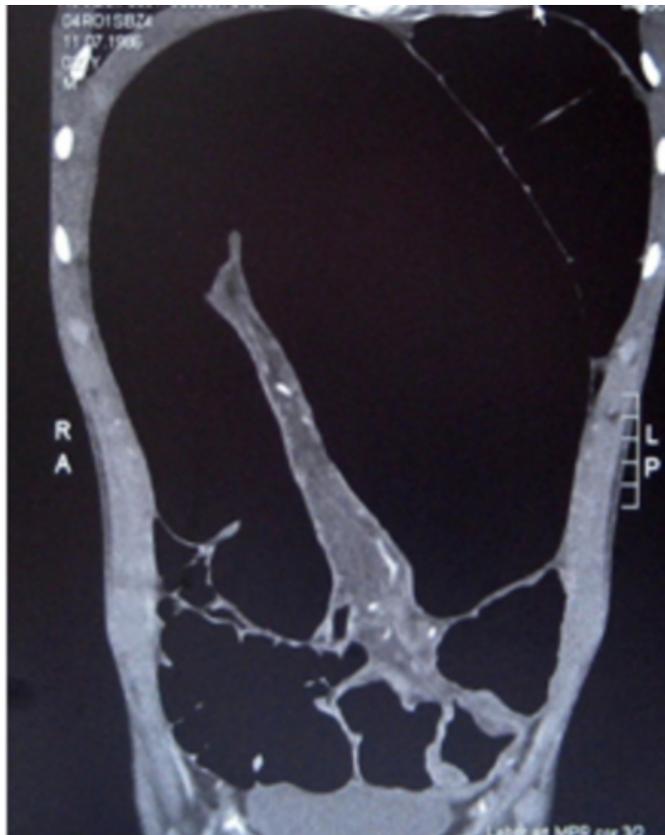
**Figure 1**

Fig. 1. Upright abdominal radiograph. A dilated and distended bowel loop was located beneath the right hemidiaphragm



**Figure 2**

Fig. 2. CT scan. Dilated transverse and sigmoid colon



**Figure 3**

Fig. 3. CT scan. Whirl sign (arrow)



Anorectal manometry was done to exclude Hirschsprung's disease. Function of internal and external sphincters was normal.

In summary of all clinical and laboratory data diagnosis, sigmoid volvulus with acute colonic obstruction and Chilaiditi's syndrome were established. To avoid complications such as gangrene, perforation, and peritonitis, an urgent operation was indicated.

Before surgery, the patient received fluids. Conservative decompression failed and surgical treatment was applied.

The operation comprised laparotomy, volvulus detorsion and sigmoid resection with end-to-side anastomosis. A midline wide laparotomy was performed. At laparotomy, there was a sigmoid volvulus and an extremely distended sigmoid colon up to 20cm was identified. The transverse colon was dilated massively but still viable. After sigmoid mobilization, resection of the enormously redundant sigmoid colon and primary end-to-side descendo-rectal anastomosis were performed with interrupted sutures PDS 4/0. The operating time was 3.5 hours. The length of the resected specimen was 40cm.

### **RESULTS**

Postoperative recovery was accompanied by abdominal bloating with vomiting and in a period of treatment the patient passed stool on the fourth day after operation. He received I/V fluids to correct electrolyte imbalances and resumed oral food intake on the fourth postoperative day. The length of postoperative hospital stay was 10 days.

### **PATHOLOGY**

Macroscopy showed a resected colon (40cm length) dilated to 8cm in diameter with 5cm mesentery. The serosa was smooth and glistening. The colonic wall was 3-4mm thick.

At microscopy, normal mucosa of the resected specimen was seen with signs of hyperplasia. The submucous layer was normal and the muscular layers were hypertrophic.

Interstitial and submucosal ganglionic plexus were normal. The mesentery showed hemorrhagic maculation and there were ectatic sinuses in the lymphatic nodes. The normal architecture of myenteric and submucosal plexus was proved by immunohistochemical investigation.

### **DISCUSSION**

Chilaiditi's sign describes an anomalous anatomic position of the hepatic flexure of the colon between the liver and the right diaphragm. When a patient presents with this anatomic anomaly and has associated gastrointestinal symptoms, the condition is called Chilaiditi's syndrome [1]. A sigmoid volvulus develops when the gut gradually elongates, dilates, and subsequently twists around its mesenteric axis. As a result of this rotation, blood circulation to the twisted bowel

part is disrupted, and complications such as gangrene, perforation, and peritonitis may occur. An excessive colon length and laxity of the colonic suspensory ligaments are the principal predisposing factors [2]. Nonresective procedures have been used in patients with a viable colon, although high recurrence rates have been reported in such cases [2,3]. Colonoscopic reduction of transverse colon volvulus has been performed rarely and generally is unsuccessful. The surgical treatment should be chosen according to the condition of the bowel. If the bowel is necrotic, the involved segment must be resected. Creation of a colostomy or primary anastomosis is dependent on local conditions. If the bowel is viable, detorsion with a colopexy or resection of the excessive colon is recommended. Simple reduction of the volvulus leaves a potential for recurrence [3].

### **CONCLUSION**

We suppose that single-stage resection and anastomosis appears to be the treatment of choice in Chilaiditi's syndrome in a patient with sigmoid volvulus and that nonresective procedures such as detorsion and colopexy leave a potential for recurrence.

### **References**

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