



## AN UNUSUAL CAUSE FOR TRANSVERSE COLON STRICTURE – SEALED OFF PERFORATION: A CASE REPORT

### General Surgery

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### ABSTRACT

Intestinal obstruction secondary to transverse colon stricture is a very rare finding in adults. Transverse colon stricture secondary to perforation is even so rare finding. A fifty-five-year-old male patient presented with chronic abdominal distension. Clinical findings were distended abdomen with distended bowel loops and no tenderness. CECT abdomen suggested sigmoid volvulus. Upper GI endoscopy suggested narrowing at D1, D2 junction and colonoscopy suggested ascending colon stricture. Intra operative we found transverse colon stricture with adhesions to caecum and small bowel loops. Adhesiolysis and resection anastomosis done. Thus even with modern diagnostic modalities intra operative findings can still surprise you, leaving you guessing about the possible etiology at the end.

### KEYWORDS

transverse colon stricture, chronic intestinal obstruction, colon perforation

### INTRODUCTION

Transverse colon stricture in adults is a very rare condition. Transverse colon stricture presenting as chronic abdominal distension without previous history of surgery or history suggestive of infectious or ischemic cause is even rare. Colonic stricture can be secondary to Crohn's disease, ischemia or diverticular disease. In Crohn's disease intestinal (including small and large bowel) stricture can develop as a long-term sequela in about 10-15% patients, but not necessarily symptomatic. There is no consensus available for strictures secondary to other causes like ischemia or diverticular disease as they are very rare.

Often strictures are very difficult to diagnose even with modern diagnostic modalities especially when they have chronic presentation with no suggestive history.

### PRESENTATION OF CASE

A 55-year-old male patient presented with complaints of abdominal distension since more than 5 years with complaints of constipation. On physical examination patient was well built and nourished for his age and well oriented to time, place and person. On local examination, there was a gross distension of abdomen, with no tenderness or palpable mass or shifting dullness. Per rectally it was collapsed with stool stain normal anal sphincter tone with no palpable mass. Patient was admitted with provisional diagnosis of chronic intestinal obstruction and evaluated.

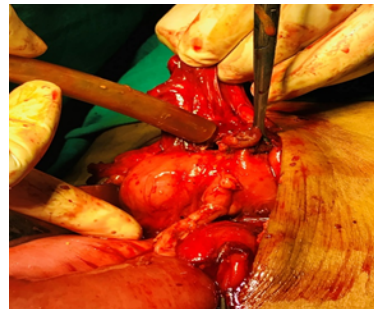
On admission his vitals were stable with pulse rate: 80 bpm, blood pressure: 120/70 mm hg, saturation: 96% at room air, respiratory rate: 18 cycles per minute. Patient was a chronic smoker with no other habits and non-diabetic. Routine investigations were as follows: haemoglobin-11.3 mg/dl, total counts-5800/cumm, platelets-3.53 lakhs/cumm with normal renal function tests, liver function tests, serum electrolytes and coagulation profile. CECT abdomen and pelvis suggested sigmoid volvulus with dilated entire large gut. Patient was further subjected to upper GI endoscopy and colonoscopy which suggested "narrowing of D1/D2 junction" and "benign fibrous stricture in ascending colon" respectively. Patient was then posted for exploratory laparotomy with adequate preparation and consent of patient and his attenders.

Intraoperatively after abdomen was opened in layers, stricture at approximately middle of transverse colon was seen with adhesions to caecum and two loops of small bowel noted along with huge dilatation of bowel proximal to stricture including small bowel with atrophy of bowel distal to stricture. Thick fibrous adhesions between caecum and small bowel loops and transverse colon stricture were released and resection anastomosis of transverse colon done. Also the breach in small bowel that occurred while trying to release adhesions was closed with vicryl 3-0. Resected specimen sent for HPE. Intra-abdominal drain placed and abdomen closed in layers. Patient tolerated procedure well. Post operatively patient developed anastomotic leak (which was

anticipated due to huge disparity between proximal and distal bowel loop) on POD 4. Patient allowed orally on pod 5, drain removed on POD 21 after faecal output reduced to minimal after prolonged and careful evaluation. Patient discharged on POD 24 after complete suture removal. Patient was followed till date after discharge and it was uneventful. Histopathological examination of specimen revealed "benign colonic stricture with adhesion bands".



**Fig 1: releasing of adhesions of small bowel with transverse colon**



**Fig 2: showing hugely dilated proximal transverse colon**



**Fig 3: showing releasing of adhesions between transverse colon and anterior abdominal wall**



**Fig 4: showing dilated small bowel loops due to chronic obstruction.**

## DISCUSSION

Transverse colon stricture in 5<sup>th</sup> decade with no suggestive history is very uncommon. Large bowel strictures in adults are uncommon and are usually secondary to ischemic colitis, Crohn's disease or diverticular disease.

Today, ischemic colitis accounts for more than 50% of all GI ischemic episodes, making it the most common form of GI ischemia. The SMA supplies the proximal transverse colon through its middle colic branches. The IMA supplies the distal transverse colon and left colon through its left colic branch. Risk factors include vascular disease, diabetes mellitus, vasculitis, hypotension, and tobacco use. Long-term sequelae include stricture (10–15%) and chronic segmental ischemia (15–20%). Today management is dependent on whether ischemia is partial thickness or full thickness variety. In partial thickness ischemia the vascular insult is limited to the mucosa and sometimes the submucosa which when treated appropriately, is generally transient and resolves without the need for acute surgical intervention, on occasion, partial-thickness ischemic colitis can resolve but result in scarring and stricturing of the involved colon, a condition that may eventually require segmental colectomy if symptomatic. Partial-thickness ischemia can also progress into a chronic, segmental ischemia with recurrent sepsis and colonic ulceration. In full-thickness ischemia, the entire thickness of the bowel wall is compromised, colonic perforation is common, and urgent surgical intervention is necessary.

Crohn's disease is a nonspecific IBD that may affect any segment of the GI tract. The cause of Crohn's disease has not yet been determined. Three prevalent theories include response to a specific infectious agent, a defective mucosal barrier allowing an increased exposure to antigens, and an abnormal host response to dietary antigens. Intestinal obstruction in Crohn's disease may be caused by active inflammation, fibrotic (fibrostenosis) stricture from chronic disease or an abscess or phlegmon causing a mass effect. Adhesions from previous abdominal operations must also be considered.

Acute diverticulitis is often broadly clinically divided into uncomplicated and complicated disease on the basis of the findings on initial presentation. Patients with complicated diverticulitis are characterized by the presence of an abscess, fistula, obstruction or perforation. The majority of these patients will require surgery. Those with uncomplicated disease are found to have pericolic inflammation in the presence of diverticula without any of these complications. Obstruction due to stricture formation is rarely associated with acute diverticulitis. However, this may occur because of chronic inflammation resulting in narrowing of the lumen. Most often, the obstruction is partial and insidious, but patients can occasionally have significant obstructive symptoms.

In any of the above conditions perforation of large bowel is a possibility in acute state where full thickness of colonic wall is involved. Sometimes very rarely such perforation might be sealed with the help of adjacent bowel loops as is suspected in the present case, which might then present later as chronic intestinal obstruction.

## CONCLUSION

Stricture in transverse colon presenting as chronic intestinal

obstruction in old age is very rare. Transverse colon stricture secondary to sealed off perforation is even rare and is diagnostically difficult especially with no suggestive history of previous inflammation or surgeries. Even with availabilities of modern diagnostic facilities final findings intra operatively can surprise you as in our case. Hence even after thorough evaluation of the patient sound surgical technique and preparedness for any possible surprises play an important role in the final outcome.

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