A RARE CASE OF POST TRAUMATIC JEJUNO-SIGMOIDAL FISTULA - RADIOLOGICAL AND IMAGING APPROACH

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ABSTRACT

We report a rare case of post-traumatic enterocolic fistula between jejunum and sigmoid colon, which occurred as a delayed complication of blunt injury abdomen. The patient had steering wheel injury in a road traffic accident six months back. At that time he was treated conservatively. Following a latent period, he had developed jejunal stricture causing intestinal obstruction. He had also developed perforation in the distal part of obstructed jejunum and also perforation in the sigmoid colon because of mesenteric injury and ischemia. This had lead onto the formation of jejuno-sigmoidal fistula.

KEYWORDS


INTRODUCTION

Enterocolic fistula is a complication that may follow Crohn’s disease or colonic diverticulitis. It has also been reported following carcinoma involving sigmoid colon, intestinal T-cell lymphoma, as a complication of postoperative radiotherapy. [3] Enterocolic fistula occurring as a delayed complication of blunt injury abdomen is very rare and unusual.

CASE HISTORY

A 31 years old male patient who had history of road traffic accident with blunt injury abdomen (Steering wheel injury) six months back. He was evaluated at that time in another hospital and was treated conservatively. One month after the accident he had passed lengthy flesh like material in his stools! Again three months after the accident patient presented with abdominal pain and vomiting and was diagnosed as small bowel obstruction with bowel ischemia.

But he was not taken up for surgery since the patient discharged against medical advice. Now six months after the accident he presented to our hospital with complaints of abdominal pain, vomiting, bloating sensation after eating and gross loss of weight. Blood investigations revealed anemia and hypoproteinemia. Abdomen erect x-ray showed dilated proximal jejunal loop (Fig 1). Ultrasound examination of abdomen revealed gaseous distension of bowel loops, minimal ascites and bilateral pleural effusion. Single contrast barium enema examination was done which showed normal opacification of large bowel loops with minimal contrast entering into grossly dilated jejunum (Fig 2).

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Double contrast barium enema study showed infused air entering into the dilated jejunum, representing jejunoileal communication (Fig 3).

CT abdomen was done with intravenous, oral and rectal contrast. It showed grossly dilated proximal jejunal loop (Fig 4, 5 and 6) and rest of the bowel loops were collapsed except sigmoid colon. Infused rectal contrast appeared to be directly entering into grossly dilated jejunum from sigmoid colon and jejuno-sigmoidal fistulous tract was clearly demonstrated in the axial, coronal and sagittal images (Fig 7A, 7B, 7C).

Patient was taken up for surgery and our radiological findings were confirmed. The operative findings were:

Dilated proximal jejunum for about 30cms from duodenojejunal flexure. Mass formation involving omentum, jejunal and ileal loops with adhesions to peritoneum.
Mesenteric rent of about 10cms with herniating jejunal and ileal loops (Fig 8A). Fistula between proximal jejunum (30cms from duodenojejunal flexure) and mid part of sigmoid colon (Fig 8B).

Fistulous tract was released and primary closure of sigmoid colon was done. Mass formation from peritoneum was separated and resection anastomosis of jejunum done. Patient recovered well after surgery and was discharged seven days after surgery. Six days after surgery followup, x-ray was taken and it showed no dilated bowel loops (Fig 9).

It is a case of post-traumatic small intestinal obstruction with jejuno-sigmoidal fistula. At the time of accident, mesenteric injury had happened which had lead onto mesenteric ischemia and bowel ischemia. Bowel ischemia had caused proximal jejunal stricture causing small intestinal obstruction and adhesive mass formation involving jejunum, ileum and omentum. Ischaemia had also resulted in perforation in the distal part of dilated jejunum. Disinsertion of sigmoid mesentery had caused sigmoid perforation through which injured mesentery had found way to go outside (Cause for patient’s history of passing fleshy material in stools). Fistula had been formed between raw area in distal part of dilated obstructed jejunum and raw area in sigmoid colon.
Ascites and pleural effusion may be due to severe hypo-proteinemia.

**DISCUSSION**

Immediate complications following blunt injury abdomen are many and include solid organ injury, biliary leaks, hollow viscus perforation, peritonitis, mesenteric tear and infection.

Delayed complications after blunt injury abdomen are rare and include small or large bowel stricture, which is observed in after conservative treatment of blunt abdominal trauma and may result from various pathological mechanisms.

The classical features of this entity include a time interval between trauma and onset of symptoms ranging from 3 days to 11 months and clinical and radiological signs of obstruction. Injury related focal segmental intestinal ischaemia plays an important role in the pathogenesis of post-traumatic intestinal stenosis.

These stenosis may be complicated by perforation probably due to ischemic ulceration. Delayed perforation of the sigmoid colon may also be caused by disinsertion of sigmoid mesentery. CT scan is the reliable method in detecting level and cause of obstruction.\[2\] In this patient the combination of both obstruction and perforation had occurred. Perforation had occurred in two places in distal end of diated jejunum and also in sigmoid colon, which had resulted in jeuno-sigmoidal fistula.

**REFERENCES**


Fig. 4: Axial contrast enhanced CT shows dilated proximal jejunum (Arrow)

Fig. 5: Coronal contrast enhanced CT shows dilated jejunal loop (Arrow)

Fig. 6: Axial contrast enhanced CT shows jejunum (White arrow) and sigmoid colon (black arrow), the axial section just before fistulous communication

Fig. 7A: Axial contrast enhanced CT shows fistulous communication between jejunum and sigmoid colon (Long white Arrow). Short white arrow shows sigmoid colon and black arrow shows jejunum

Fig. 7B: Coronal contrast enhanced CT shows fistulous communication (Long Arrow) between jejunum and sigmoid colon. Short arrow shows sigmoid colon

Fig. 7C: Sagittal contrast enhanced CT shows fistulous communication (White Arrow) between jejunum and sigmoid colon. Short black arrow–Jejunum. Long black arrow–Sigmoid colon
Fig. 8A: Intraoperative picture shows mesenteric rent (Arrow)

Fig. 8B: Intraoperative picture shows fistulous communication between proximal jejunal loop and sigmoid colon (Arrow)

Fig. 9: Abdomen erect AP radiograph taken six days after surgery shows no abnormally dilated bowel loop