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

S. Sumathy¹, S. Ravichandran², S. A. Jeyaraman³, Rafeevudh Dharaja A. K.⁴

¹Professor and HOD, Department of Radiology, Madurai Medical College.

²Professor, Department of Radiology, Madurai Medical College.

³Senior Resident, Department of Radiology, Madurai Medical College.

⁴Post Graduate, Department of Radiology, Madurai Medical College.

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

Post-Traumatic Enterocolic Fistula, Post-Traumatic Jejuno-Sigmoidal Fistula, Small Intestinal Obstruction.

HOW TO CITE THIS ARTICLE: S. Sumathy, S. Ravichandran, S. A. Jeyaraman, Rafeevudh Dharaja A. K. "A Rare Case of Post traumatic Jejuno-Sigmoidal Fistula - Radiological and Imaging Approach." Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 100, December 14; Page: 16584-16587, DOI: 10.14260/jemds/2015/2470

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.^[1] 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).

Double contrast barium enema study showed infused air entering into the dilated jejunum, representing jejunocolic 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 ischaemia 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.

Financial or Other, Competing Interest: None.

Submission 19-11-2015, Peer Review 20-11-2015,

Acceptance 06-12-2015, Published 14-12-2015.

Corresponding Author:

Dr. Rafeevudh Dharaja,

12/38, Mahendra Maligai First Floor,

Kumarasami Raja Street,

Shenoy Nagar,

Madurai-625020

E-mail: rafeevudh@gmail.com

DOI:10.14260/jemds/2015/2470

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 dilated jejunum and also in sigmoid colon, which had resulted in jejuno-sigmoidal fistula

REFERENCES

1. Albu E, Gerst PH, Ene C, et al. Jejunal-rectal fistula as a complication of postoperative radiotherapy. Am Surg 1990;56:697-699. Medline
2. Borut Marincek, Robert F Dondelinger. Emergency Radiology: Imaging and Intervention. Springer Science & Business Media; 2007. P 88,89.

Fig. 1: X-ray Abdomen erect view shows dilated small bowel loop (Arrow).

Fig.2: Single contrast barium enema study shows normally opacified large bowel with small amount of contrast in dilated jejunum. Long arrow shows outline of dilated jejunum. Short arrow shows contrast within jejunum

Fig. 3: Double contrast barium enema study shows dilated air filled jejunum with small amount of contrast within. Infused air has entered into jejunum from sigmoid colon. Long arrow shows dilated air filled jejunum. Short arrow shows contrast within jejunum

Fig 4

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

Fig 5

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

Fig 6

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

Fig 7A

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

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

Fig 7C

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

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