

## Case Report

# Blunt abdominal injury: a rare cause for delayed small bowel obstruction

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### ABSTRACT

Blunt abdominal trauma is a cause of acute abdomen leading to visceral injury and shock. Intestinal obstruction though rare has been a known complication of blunt abdominal trauma. We present to a case of a blunt abdominal trauma leading to delayed intestinal obstruction 4 weeks after primary injury. We present to you a case of blunt abdominal trauma leading to delayed intestinal obstruction 4 weeks after primary injury.

**Keywords:** Blunt abdominal trauma, Delayed intestinal obstruction, Injury

### INTRODUCTION

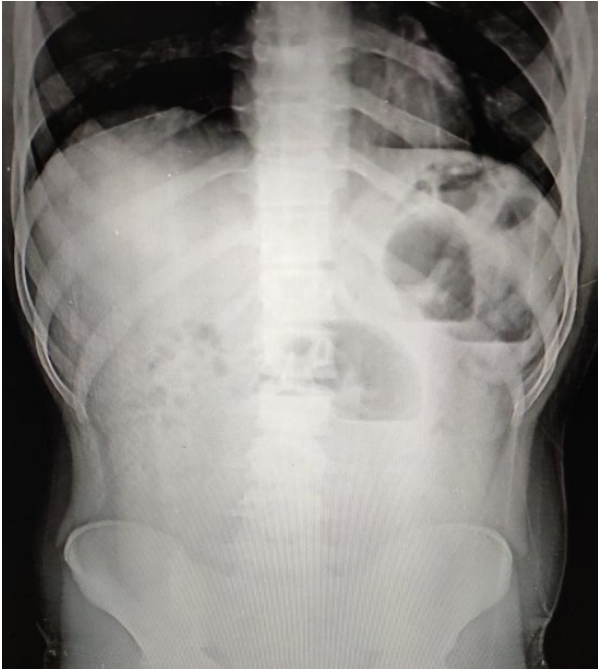
Trauma is a leading cause of morbidity and mortality in younger populations worldwide.<sup>1,2</sup> Injury in general is the 7<sup>th</sup> most common cause for mortality and abdominal injury is the third most commonly injured region, about 25% of which require surgery.<sup>3</sup> The most commonly injured organs in a case of blunt abdominal trauma include spleen, liver, small bowel, stomach, kidney and less likely the diaphragm.<sup>4</sup> Hence, blunt abdominal trauma is a known cause of acute abdomen, requiring immediate attention and often even surgical intervention. Most of these cases are acute and require immediate attention. In the absence of shock and peritonitis these patients can be treated by a non-operative management conservatively. Rarely these patients can present later with intestinal obstruction.<sup>5,6</sup> The exact mechanism of delayed obstruction is uncertain but the following hypothesis can be postulated sub-clinical small bowel perforation, localized bowel ischemia and mesenteric vascular injury.<sup>7</sup>

### CASE REPORT

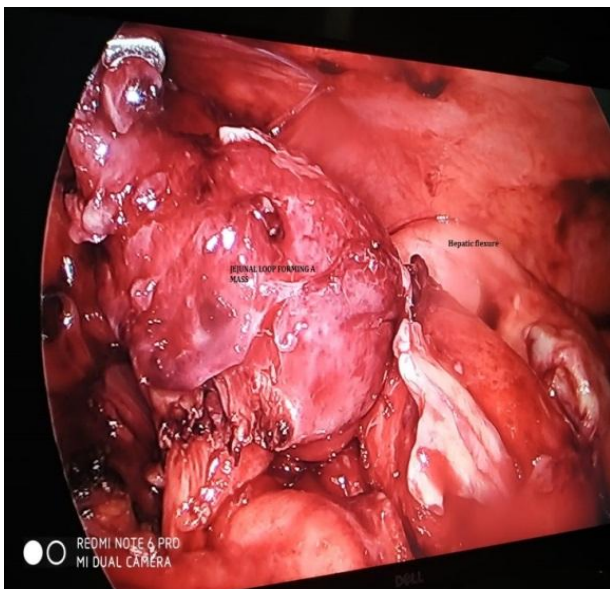
A healthy male patient 18 years old presented to the emergency room, with complaints of pain abdomen,

abdominal distension with vomiting for duration of 3 weeks on and off. The pain and symptoms relieved on passing stools. On further questioning the patient gave a history of blunt abdominal trauma 4 weeks back as a result of a road traffic accident. The patient was treated conservatively for the same at peripheral health care centre. On examination, the patient's vitals were normal and the abdomen was distended with guarding and tenderness over the right hypochondrium. Digital rectal examination had collapsed rectum with soft stools in it. An erect X-ray abdomen was done and it showed features of small intestinal obstruction. The patient's symptoms spontaneously relieved over the next few hours with conservative treatment. The patient was subjected to a contrast enhanced computed tomography scan of the abdomen and it showed an internal hernia posterior to the ascending colon just inferior to the hepatic flexure with the jejunal loops herniating through it. The patient was posted for diagnostic laparoscopy. Intra operatively there was a jejunal loop folded on itself with a mass formation adherent to the ascending colon just beneath the hepatic flexure. On further dissection the mass was separated from the colon and the adhered loop of jejunum was resected and end to end jejunum-jejunal anastomosis was performed. On histopathology examination the resected jejunal loop showed a sealed off perforation, with

ischemic changes of the surrounding bowel loop. The post-operative period of the patient was uneventful and the patient tolerated enteral feeds well. The patient was discharged on the post-operative day 5 and the follow up has been uneventful since.



**Figure 1: X-ray showing air fluid levels.**



**Figure 2: Intra op showing the jejunal loops forming a mass.**

## DISCUSSION

Small bowel obstruction is a rare complication of blunt abdominal trauma, but usually presents early. Delayed small bowel obstruction is a rare entity with only a few

reported cases.<sup>7</sup> The exact mechanism causing the obstruction is still controversial.

A perforation may seal off spontaneously leading to a scar and thus later a stricture formation. This mechanism was described by Welch et al in blunt abdominal injury.<sup>8</sup>

The other possible mechanism stated could be localized bowel ischemia leading to stenosis as explained by Nelson et al in a 5 year old child sustaining blunt abdominal trauma in a car accident.<sup>9</sup>

Several authors suggest the mechanism of mesenteric injury as a cause of stricture formation. Maharaj et al, have suggested in their study that mesenteric injury maybe the cause of intestinal stenosis post blunt abdominal trauma.<sup>7</sup>

There have been reports of delayed jejunal perforation following blunt abdominal trauma as indicated by Subramanian et al thus leading to acute abdomen, in cases of blunt abdominal injury.<sup>10</sup>

In our patient, histopathological evidence points to a sealed-off perforation in the resected jejunal specimen. Thus, the course of events could be Trauma followed by small bowel perforation; mass formation with spontaneous sealing off followed by localised ischaemia and scar formation which forms strictures and intestinal obstruction.

## CONCLUSION

Blunt abdominal trauma is an acutely emergent situation but the possibility of a delayed intestinal obstruction should be kept in mind in all cases of blunt abdominal trauma. Hence, a regular follow up in all cases of blunt abdominal trauma is necessary.

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