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Case Report

Jejunal transection after blunt abdominal trauma: a case report

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ABSTRACT

Blunt trauma to the abdomen resulting in small intestinal injury is a mystique associated with relative infrequency, mechanism of injury, location and difficulty in diagnosis. Missed or delayed diagnosis was implicated as a major contributor for high mortality. Small bowel injuries are uncommon after Blunt Abdominal Trauma (BAT) and are usually due to high energy deceleration injury, commonly caused by motor vehicle accidents. The possibility of occult intestinal injury must be kept in mind in all patients presenting with blunt abdominal trauma, despite paucity of physical signs. In cases reported in other series, the intestine is one of the third most commonly injured organs in blunt trauma. We present a report on a case of jejunal transection that occurred after a blunt injury to the central abdomen with delayed presentation that had a few clinical signs and although the chest radiograph was negative, a high index of suspicion and timely exploration in this case led to prompt surgical intervention and a successful outcome.

Keywords: BAT, Jejunum Transection

INTRODUCTION

Blunt trauma to the abdomen resulting in small intestinal injury is a mystique associated with relative infrequency, mechanism of injury, location and difficulty in diagnosis. Missed or delayed diagnosis was implicated as a major contributor for high mortality. Small bowel injuries are uncommon after Blunt Abdominal Trauma (BAT) and are usually due to high-energy deceleration injury, commonly caused by motor vehicle accidents. [1] The possibility of occult intestinal injury must be kept in mind in all patients presenting with blunt abdominal trauma, despite paucity of physical signs.[2]

CASE REPORT

A 23-year-old solider sustained a blunt injury to the central abdomen during a collision with a bullock cart while driving a 2 wheeler. He presented with severe abdominal pain, vomiting and fever after 2 days of the date of injury. On examination he was in distress. Pulse rate was 100/ min and he was febrile. He had transverse abrasions 10 cm in the epigastric area (Figure 1). The abdomen was mildly distended with rebound tenderness. Bowel sounds were sluggish. Systemic examination did not reveal any other signs of associated injury.

Figure 1: Transverse abrasion.

Laboratory parameters were in the normal range with Hb 13.3 gm/100ml, PCV 40%. An urgent X-ray of the chest and abdomen (erect and supine) were done which was normal with no features of hollow viscus perforation.

On ultrasonography of the abdomen revealed haemoperitonium with fluid collection in the perisplenic space. The other solid organs were normal. Patient was resuscitated and planned for exploratory laparotomy and proceed.

Figure 2: Intra operative-transacted jejunum.

Figure 3: Thinned out jejunum anti-mesenteric area.

Figure 4: Anastomosed jejunum.

Intra-operative findings showed a complete transection of the Jejunum, it was found divided into 3 segments, 30 cms from DJ junction (Figure 2) with areas of seromuscular thinning of the antimesentric border of 20 cms length (Figure 3) and hemoperitonium. The transected portion was sealed by a wrap of omentum and the mesenteric vessels were intact. A limited small bowel resection and primary anastomosis was performed (Figure 4 and 5). His postoperative course was uneventful and he was discharged on day 11.

Figure 5: Resected specimen.

DISCUSSION

Most cases of small bowel perforation after blunt trauma occur as a result of motor vehicle accidents and fall from heights, and are often associated with multiple injuries.[4] In such cases, the mechanism of injury is usually mesenteric laceration due to direct compression, or small bowel rupture due to deceleration injury. This would typically affect fixed segments such as the duodenum, duodeno-jejunal flexure, proximal jejunum and terminal ileum.[5]

In the presented case, isolated rupture of the mid-small bowel occurred due to application of a localized blunt force to the central abdomen, which resulted in jejunal transection, presumably by direct compression against the lumbar spine, it was as per the small bowel injury scale Grade IV to V with hemoperitonium. In all possibilities the hemoperitonium could be from the bleeding from the transected ends of jejunum. Even though a distal feeding jejunostomy would have been prudent it was not done in this case.

Owing to the rarity of small bowel injury after blunt abdominal trauma, absence of peritoneal signs and insensitivity of radiological imaging, the diagnosis of small bowel perforation is often delayed and is associated with marked morbidity and mortality.[6]

The presented cases highlight the importance of obtaining a thorough history, paying particular attention to the nature and velocity of the projectile, the mechanism of

injury and the exact anatomical site of the applied force. Patients sustaining apparently minor injuries to the central abdomen may be at particular risk of small bowel perforation. Such patients should be reviewed at frequent intervals by an experienced clinician and should undergo prompt surgical intervention at the earliest sign of clinical deterioration.

Significant factors influencing mortality include therapeutic delay of 24 hours or more, and multiple injuries. Diagnostic difficulty is often a problem as the patient is in pain and distress and often has impaired level of consciousness and/or associated remote injuries which may distract the clinician from the abdomen. Delayed rupture may also occur, and observation should continue for at least 48 to 72 hours with a warning to return immediately if pain recurs. Straight abdominal and chest radiography are of limited diagnostic value, but nevertheless may prove helpful in 50% of cases.[7]

All patients with multiple injuries, particularly in the presence of a head injury with an impaired level of consciousness should be submitted to diagnostic abdominal paracentesis. A negative result should prompt diagnostic peritoneal lavage though this was not done in this case as patient was immediately taken up for emergency surgery.

DPL was the diagnostic method of choice for evaluating blunt abdominal injury in the past but recently has been often replaced by CT imaging; this investigation was not done as the facility of imaging was not available. Early diagnosis and aggressive therapy are essential if the mortality is to be reduced. Careful and frequent abdominal assessment should be practiced, with immediate laparotomy if clinical parameters deteriorate, or do not improve over a 12 to 18-hour period.[8] In recent years laparoscopy has been used for diagnosis and repair of bowel as a newer modality of management.[9]

CONCLUSION

To conclude this case of isolated jejunal injury followed by Blunt Abdominal Trauma brings forward the peculiarity of the case of delayed presentation and low threshold to explore and the importance of repeated examination.

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