
**Rupture of Ileum
Due to Blunt Trauma
Abdomen**

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Summary

An isolated complete tear of a portion of ileum with its mesentery due to blunt trauma leading to acute abdomen is described.

Introduction

Blunt trauma abdomen causing complete tear of a portion of gut with mesentery is a rare injury. Its occurrence and successful treatment in a young man, a labourer, is described.

Usually blunt injury abdomen affects the solid organs like spleen, liver, kidneys etc and fixed intestinal portion like duodenum and rarely ascending and descending colon. Injury to mobile portion of the gut is rare. In small perforation of the gut the mucosa prolapse and tends partially to seal the rent, and so the early signs are misleading. Blunt injury abdomen also affects the biliary tree and urinary tract. It can also affect big vessels and pancreas.

Case Report

On 6.2.1989, while a young man plumber by profession was at work in construction of a building, a heavy object fell from a height of 12 feet on his back. Due to weight and velocity of the object, the patient forcibly sat down on the ground and his both knees stuck in his abdomen

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forcefully; he became unconscious and was taken to the local hospital at Swabi, where he was resuscitated. On recovery the patient felt severe, colicky pain in whole of the abdomen with nausea but no vomiting and some abdominal distension. From there the patient was shifted to Lady Reading Hospital, Peshawar with complaint of:

1. Pain abdomen radiating to both shoulders.
2. Vomiting.

On examination, the patient was fully conscious, pulse 100/mt, B.P. 120/90, the abdomen was distended, moving with respiration, tender all over, with rebound tenderness and rigidity more so in the centre. It was dull to percussion. Bowel sounds were absent. No abnormality was detected in other systems of the body.

X-ray Abdomen erect/lying and X-ray Chest & Pelvis were done: with no abnormality detected in these radiographs. Ultrasonography of the abdomen revealed normal viscera with fluid in the peritoneal cavity. On four quadrant tap with J.M.S. Cannula, haemorrhagic fluid wa aspirated.

The following Laboratory Investigations were also done which were normal: HB, TLC, DLC, E.S.R. Blood Urea/Electrolyte Amylase level in blood and peritoneal aspirate and Urine Analysis.

The patient went into shock again and was resuscitated. On 7.2.1989 the patient was operated.

Operative Findings

A para-umbical incision was given which was extended up and down. The peritoneal cavity was full of blood which was sucked.

There was 17 centimeter long free piece of ileum with mesentery lying in the peritoneal cavity. Two cut ends of the ileum were identified, about 2 feet from the ileocaecal junction, the vessels from the mesentery were oozing.

Ileal free piece was removed and preserved as specimen, the ends of the Ileum were freshened, and end-to-end anastomosis in 2 layers with cat gut performed, mesenteric rent repaired after hemostasis, peritoneal

cavity cleaned and washed with normal saline and Metronidazole solution, wound closed in layers with a tube drain in peritoneal cavity which was removed after 2 days.

The patient had an uneventful recovery and was discharged home on 9th day.

Discussion

Blunt trauma has been known to cause injury to any intra-peritoneal organ without any superficial bruise. The most frequent cause of such an accident is a blow on the abdomen, the rupture probably being produced by a coil of intestine being crushed against the sacral promontory. Blast injuries of the abdomen sustained during Bomb Blast resulted in traumatic rupture of the intestine in a number of cases. The clinical picture in cases of blunt injury varies considerably and is not a reliable guide to diagnosis. It is better to explore the abdomen if there is even a suspicion of intra-peritoneal injury although "Nance" advises against routine exploration in all cases. The mortality without exploration in injury of the intestine approaches 100% and injury of the solid viscera are slightly less serious.

Shock is usually present though it is not in itself a sign of diagnostic value. But if it persists or recurs after resuscitative treatment, it is a strong evidence of internal injury. A rising pulse rate is another sign of internal injury. The detection of fluid (blood) in the peritoneal cavity is diagnostic, and "Stephen" presents a strong case for paracentesis as an aid to the diagnosis of intra-abdominal trauma.

The 4 quadrant tap is of value to detect intra-abdominal bleeding. In blunt injury abdomen the 4 quadrant tap is of value to detect intra-peritoneal bleeding, though some patients with clinical symptoms and signs of pain, tenderness and rigidity do not have serious intra-abdominal injury. However, significant intra-abdominal injury and bleeding may be present with minimal signs and early detection requires specific investigative procedures to identify the pathology early.

Although peritoneal lavage and mini-laparoscopy have replaced the 4 quadrant tap in many centres, but these and even the use of CT have not eliminated completely the problem of negative laparotomy in patients suspected of intra-abdominal injury.

In blunt injury abdomen, injury to the urinary tract can usually be excluded by the passage of catheter. A large collection of intra-peritoneal blood suggests damage to a solid viscus, spleen, liver, mesentery and omentum. Effusion of bile into the peritoneal cavity suspects injury to gall bladder and bile duct. If the gut is ruptured, turbid or bile stained fluid or in case of colonic injury faecal matter may be present in the peritoneal cavity. In small perforation, however, owing to the sealing effect of protruding mucous membrane, little or no escape of contents may occur but 'A' clean peritoneal cavity in no way excludes such injuries. The small intestine is injured more commonly than all the other hollow viscera and specially at duodeno-jejunal junction where it is fixed comparatively.

Laceration of mesentery alone may lead to devascularisation of a portion of intestine and render resection of the affected segment imperative.

In all suspicious cases of intra-abdominal injury due to blunt trauma, it is best to explore and we believe in Sir Cuthbert Wallace universal saying "it is safer to look and see than to wait and see."

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