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RESEARCH ARTICLE

ISOLATED GALLBLADDER PERFORATION FOLLOWING BLUNT ABDOMINAL TRAUMA

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Abstract

Isolated gallbladder rupture due to abdominal blunt trauma is a rare condition due to its anatomical location and includes 0.5- 0.6% of all intra-abdominal injuries. Most often the diagnosis is delayed and mostly revealed during the surgeries. We report a case of isolated gallbladder due to abdominal blunt trauma in a 28-year-old man,whose the diagnosis was delayed last 5 days and made intraoperatively. Cholecystectomy is the surgical treatment.

Introduction:-

Isolated injury of the gallbladder during blunt abdominal trauma is a very rare entity (1). Moreover, gallbladder injury is often accompanied by other injuries including liver and splenic (2)Also, the diagnosis of isolated gallbladder rupture in the blunt abdominal trauma are usually delayed and mostly revealed during the surgery(4). We present here a case of an isolated traumatic rupture of the gallbladder diagnosed intraoperatively in a 29-year-old man.

Case report

A 28-year-old patient, without past medical history, who was victim of a stone's throw in the tight upper quadrant of abdomen area: street fight.

The patient was hemodynamically stable upon arrival. On physical exam, the patient was tender in the right upper quadrant and the ecchymosis of the right hypochondriac region. The blood tests were without anomalies. A trauma CT scan was obtained, which showed a low free-liquid in the Morrison spacebound with a small hematoma seat on liver segment 4.

Based on the patient's stable presentation, a decision of 48-hour hospital surveillance of the patient was made. Three days after, the patient presented with severe abdominal pain, nausea, vomiting and fever associated with abdominal distension. The physical examination revealed the diffuse abdominal tenderness, the blood tests showed elevated WBC (white cell count) of the 196 00/L, C-Reactive protein (CRP) test of 258.5 mg/l.

A CT abdominal scan was showed a large peri-hepatic and interhepaticorenal effusion probably related to a surinfected hematoma (figure 1).

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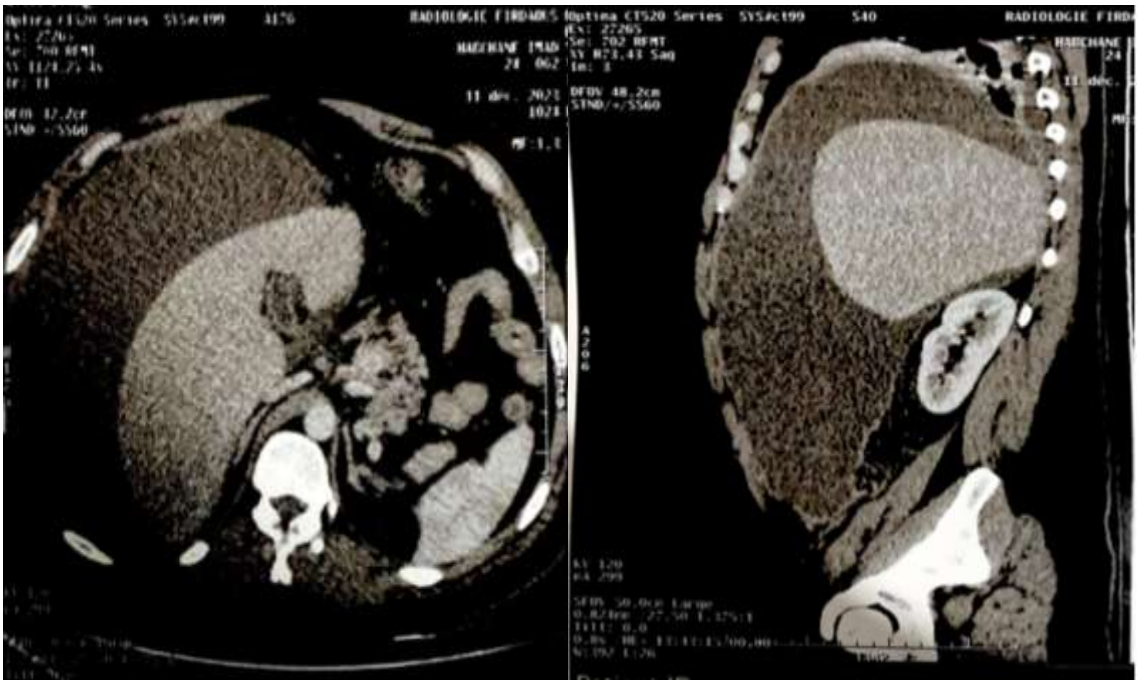

1-a 1-b

Computed tomography scan (a: transversal section) reveals large perihepaticeffusion and peritoneal (b: coronal section).

Following this finding, we decided to operate on the patient, laparoscopic exploration revealed free bile in the right upper quadrant and right paracolic gutter. the gallbladder has an obvious perforation in the fundus without a necrotic appearance of the wall (figure 2). Moreover, there was no hepatic or digestive injury identified. A cholecystectomy with peritoneal toilet and drainage was made. The postoperative course was uneventful.

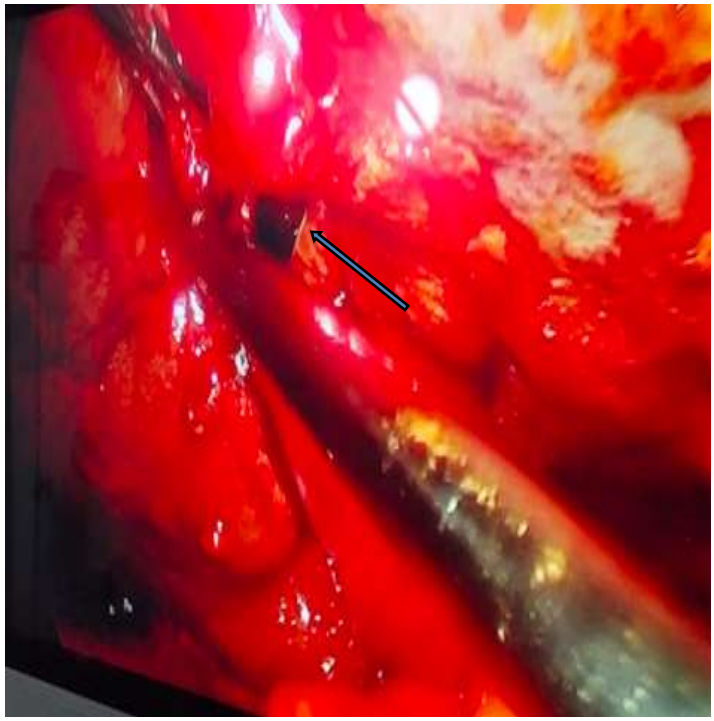

Fig. 2:- Laparoscopy showing the liver and perforated gallbladder.

Discussion:-

Isolated injury or rupture of the gallbladder is an exceptional entity of blunt trauma of the abdomen, most often associated with damage to other organs (3). Their incidence has reported as 0.5- 0.6% of all the intra-abdominal injuries (5).

Almost 91% of liver injury are seen in patients with gallbladder injuries, splenic laceration and mesentery lesions has reported in up to 54% of patients (6).

The car crash is most etiologie of gallbladder injury, falls and the closed trauma of abdomen. Gallbladder injuries can range from contusion, laceration, to partial or complete avulsion (5).

The mechanism of gallbladder injury in blunt trauma involves compression and shearing forces. The factors which predispose the gallbladder to perforation in blunt trauma include a thin-walled normal gallbladder, gallbladder distension, and alcohol ingestion, which increase the sphincter of the Oddi tone and raise the biliary tract pressure (5).

Contusion may pass undiagnosed due to lack of acute symptoms (5). Most of the case studies emphasize this idea (4). As our case, the delayed diagnosis was last 5 days, represents a complete avulsion of the fundus.

Ultrasound and abdominal CT scan are essential for diagnosis (7). Therefore, the diagnosis of gallbladder perforation is confirmed with surgical exploration. Usually, the patient presents in a clinical picture of acute peritonitis requiring emergency intervention, as our case the diagnosis was made intraoperatively.

In a similar case, the authors recommended laparoscopic cholecystectomy as the treatment for isolated gallbladder injuries. They also recommended a high index of suspicion for other associated injuries and conversion to exploratory laparotomy in cases with uncertainty in diagnosis (8), in our case, there was obvious biliary peritonitis caused by an avulsion of the wall of the bottom of the gallbladder during laparoscopy exploration without other visceral lesions including duodenal.

Conclusion:-

Gallbladder rupture in blunt abdominal trauma is very rare but not to eliminate, laparoscopic exploration allows diagnosis and cholecystectomy is the treatment of choice.

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