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GALLBLADDER PERFORATION AS AN ISOLATED INJURY DUE TO PENETRATING ABDOMINAL TRAUMA. CASE REPORT

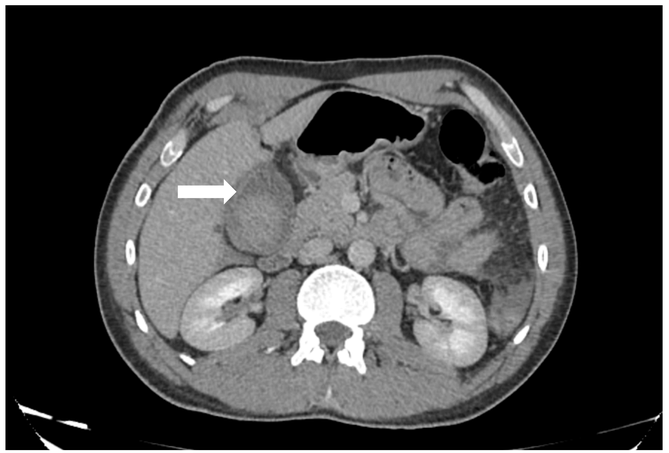
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Introduction:
Single gallbladder injury due to abdominal trauma is rare. Early diagnosis is difficult because of the variability of symptoms and nonspecific imaging results. Prompt recognition of the injury reduces complications, while delayed diagnosis or inadequate management can have disastrous consequences.

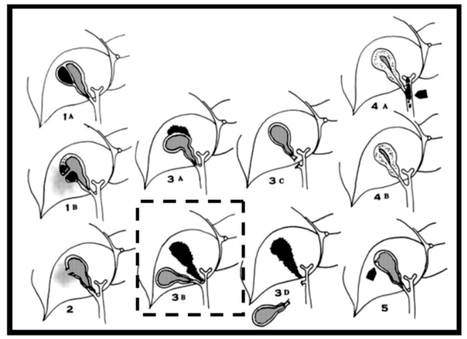
Objective:
Presentation of a case of traumatic gallbladder injury caused by a stab and literature review.

Case Report:
A 29-year-old male patient, with history of drug abuse and alcoholism. Presented to the emergency department after receiving a stab wound in right upper quadrant. The patient was hemodynamically stable upon arrival. On physical exam, abdomen was depressible, with pain in right upper quadrant and a 3 cm penetrating abdominal wound.
Initial lab results revealed Hb 14.1 WBC 23900. CT revealed perforated gallbladder. Dense endoluminal (hematic) content and perivesicular contrast extravasation, probably due to active bleeding, and signs of diffuse peritonitis.
The patient was brought to the operating room for a laparotomy: 350cc hemoperitoneum, distended gallbladder and fundus perforation with biliperitoneum were seen. No signs of active bleeding were identified, neither other injuries. Uneventful cholecystectomy was performed. Biopsy: laceration in fundus, necrosis and acute focal fibroleukocyte inflammatory infiltrate and intravesicular-intracystic blood material. Patient was discharge the 3rd day after surgery.



Discussion:
- Traumatic gallbladder injuries are rare. 3-5% of abdominal traumas have gallbladder injuries and 0.5% bile duct injuries. 85% due to penetrating trauma. The rarity of gallbladder lesion is attributed to its anatomy, since externally it´s protected by ribs and internally by liver, omentum and intestines.
- Predisposing factors for gallbladder trauma are: (1) thin-walled, normal gallbladder, (2) distended gall bladder after a meal, and (3) alcohol ingestion.
- More frequently in young men.
- The most common site of gallbladder perforation in trauma is the fundus.
- Gallbladder trauma can be classified as perforation, contusion, avulsion, and traumatic cholecystitis. Concomitant abdominal injuries are common. Risk factors: thin-walled gallbladders distended by fasting or alcohol.
- Symptoms can be immediate, due to associated injuries, or insidious, when the only injury is bile leakage.
- Imaging diagnosis is exceptional since it has a low incidence, CT findings are really nonspecific and because it`s usually a finding during laparotomy indicated by associated lesions.
- Although there are reports of conservative management in small contusions/avulsions or deserosions, the recommended treatment is cholecystectomy, because perforation of the free wall to the abdominal cavity causes biliperitoneum and may present late rupture due to ischemia.

Classification by Losanoff and Kjossev	
1 A	Contusion with intramural hematoma
1 B	Contusion with perforation
2	Rupture
3 A	Avulsion with partial detachment
3 B	Avulsion with complete detachment from the liver but with attachment to the structures of the hepatoduodenal ligament
3C	Torn only from the hepatoduodenal ligament
3 D	Complete torn from all attachements
4 A	Traumatic cholecystitis due toe haemobilia
4 B	Acute acalculus cholecystitis
5	Mucosal tear with leakege of biel



Schematic drawing of all known types of gallbladder injury according to the classification by Losanoff and Kjossev

Classification	Injury	Frequency
I	Contusion	14-65%
II	Avulsion	19-32%
III	Perforation	3-64%
IV	Traumatic cholecystitis	1%

Smith y Hastings Classification (1954) modified by Penn in 1966.

CT findings suggestive of gallbladder trauma and perforation
Hydropic gallbladder filled with hyperdense fluid or intraluminal hematoma
Intraluminal hematoma that can compromise the cystic duct which is dilated
Solution of continuity of the gallbladder wall
Extravasation of intraluminal contrast from the gallbladder
Free perivesicular and perihepatic fluid
Mass effect of free fluid on adjacent organs
Irregular, thickened gallbladder wall in a collapsed gallbladder associated with perivesicular fluid
Collections and free intra-abdominal fluid