Traumatic rupture of gall bladder after blunt trauma

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Introduction

Gallbladder injuries account for less than 1% of the patients presenting with blunt abdominal trauma in part due to its protected location embedded in the under surface of the liver.

Case report

A 41-year-old male with past medical history of seizure disorder presented to the emergency department (ED) after a motor vehicular collision. Patient was hemodynamically stable on exam with focal tenderness in the lower abdomen. Initial labs revealed elevated blood alcohol of 302mg/dl (0-10mg/dl), elevated lactate of 3.9mmol/l(0.4-2.0 mmol/L), a white blood cell (WBC) count of 6.76 K/mm3 (4.6 -10 K/mm3), a hemoglobin of 15.2g/dl (12 – 17.4 g/dl) and International normalized ratio (INR) of 0.9.

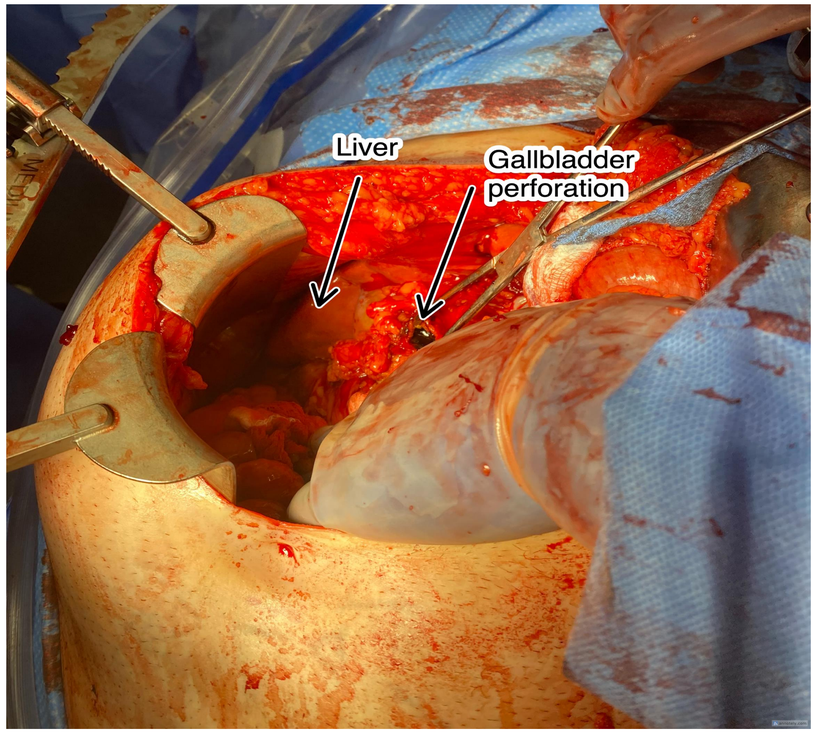
Patient was pan scanned as per trauma protocol. Computed tomography (CT) scan revealed a mesenteric hematoma associated with the hepatic flexure of colon and mural thickening of colon suspicious for colonic serosal injury. Hematoma extended along mesocolon and abutting the inferior subcapsular region of left lobe of liver. Small amount of intraperitoneal fluid more evident in the perihepatic and peri splenic regions were seen, without free air. Other associated injuries were a right temporomandibular joint subluxation.

Patient continued to have increasing and persistent abdominal pain with nausea and tachycardia. In view of worsening symptoms patient was taken to the operating room (OR) for a diagnostic laparoscopy on day 2 of presentation. Upon entry a blood clot was visualized overlying the omentum which was rotated away from this region revealing bile-stained bowel. At this point we converted it to an open laparotomy.

We dissected the omentum from transverse colon and entered the lesser sac, we continued to dissect the right lateral white line of Toldt to expose the ascending and transverse colon at the hepatic flexure which revealed a perforated gall bladder adhesed to the colon.

We then performed a cholecystectomy in retrograde fashion after the cystic artery and accessory cystic artery were identified and ligated. We then identified the cystic duct which was ligated with silk and cut. Pathology revealed a 1.5cm defect in the fundus of gall bladder. Patient did well post operatively and was discharged on post operative Day 4.

Imaging



Discussion

- Gall bladder injuries from blunt abdominal trauma are rare due to its protected position on the undersurface of the liver.
- Motor vehicle collision is the most common cause of blunt gallbladder injury.
- A thin gallbladder wall, distended gall bladder and recent alcohol ingestion can predispose to gall bladder injury.
- Isolated gall bladder perforations are rare and it is commonly associated with injuries of the liver, small bowel, spleen, kidney, pancreas or abdominal vascular injury.
- They are challenging to diagnose due to vague symptoms of pain and patients generally do not appear toxic on presentation. They present either during damage control surgery incidentally or with non-specific abdominal pain few days after trauma.

Conclusion

Gall bladder injury can be difficult to diagnose because of vague symptoms and a high index of suspicion is required. Once diagnosed an open or laparoscopic cholecystectomy is the definitive management.

References

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