The Diagnostic Challenge of Gallbladder Volvulus: A Case Report

Vinay H G*, Naveen N, Ramprashanth
Department GI Surgery,Vamshodaya Hospital, Kolar, India.
***Corresponding Author:** Vinay H G., Department GI Surgery,Vamshodaya Hospital, Kolar, India.
Received Date: 20 November, 2024 | **Accepted Date:** 02 December, 2024 | **Published Date:** 23 December, 2024
Citation: Vinay H G., Naveen N., Ramprashanth., (2024), Giant Hydronephrosis Due to Ureteropelvic Junction Obstruction in A 53-Year-Old Male: A Case Report., *Journal of Clinical Surgery and Research.*, 5(9); **DOI:**10.31579/2768-2757/151

Abstract:
Background: Gall bladder volvulus is a rare intra-operative diagnosis mimicking acute cholecystitis, usually seen in elderly females.
Clinical Description: Patients usually present with acute onset, right upper quadrant pain in the abdomen. It may be associated with vomiting, jaundice or a palpable lump
Management: Though conservative percutaneous drainage is attempted as an initial procedure, the definite management includes a cholecystectomy with laparoscopic approach preferred over open surgery.
Conclusion: Diagnosis of gall bladder volvulus is challenging and often impossible pre-operatively. Delay in definite surgical management increases the mortality and morbidity of the patients.
Key Words: Young, Male, acute pain abdomen, diagnostic dilemma.

Introduction:

A rare clinical entity with less than 400 reported cases in the literature, gall bladder volvulus is a disease with undetermined incidence.[1] It is most commonly seen in elderly patients, mimicking acute cholecystitis. The diagnosis is usually made intraoperatively, as most radiological diagnoses are inaccurate.[2] Here we present one such case in a young male.

Clinical Description:

A 25-year-old young gentleman presented to our outpatient department with complaints of abdominal pain for days. It was associated with vomiting and fever for the same duration. The pain was more in the right upper quadrant and was progressive. The patient was admitted for further management. The vitals were stable on admission. On further evaluation, the tenderness was present in the right hypochondriac region with localized guarding. There was no rigidity. Bowel sounds were present in all quadrants. The rest of the systemic examination was normal.

The ultrasonogram of the abdomen and pelvis was reported to have distended with diffuse edematous wall thickening of the gall bladder measuring 1.5cm and was associated with pericholecystic fluid and intraluminal sludge.

Consent was taken for operative procedure and the patient underwent laparoscopic cholecystectomy on the next day. Intraoperatively, a floating gallbladder twisted along the axis of cystic pedicle with a gangrenous wall was visualized. Early mass formation with adhesions between the gall bladder, duodenum and omentum was also noted.

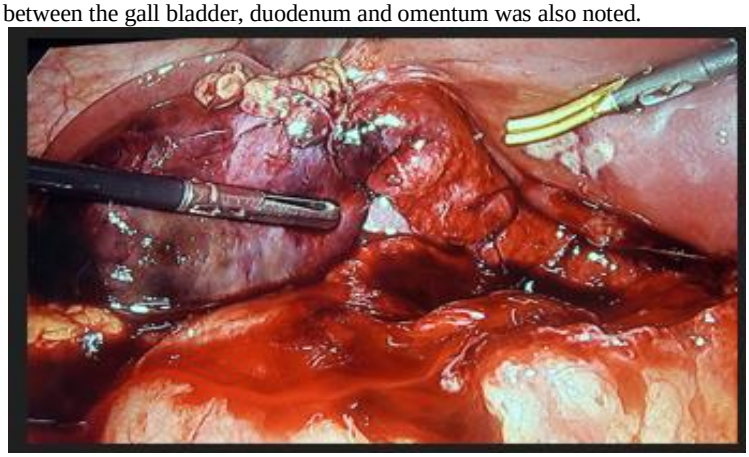

Figure 1: The entire gall bladder was excised.

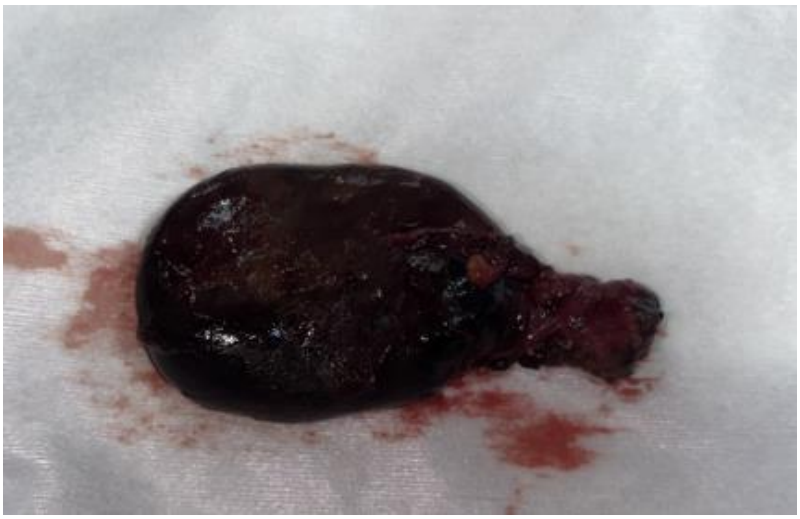

Figure 2: and sent for HPE for confirmation. It revealed gangrenous gall bladder with ulcerated mucosa.

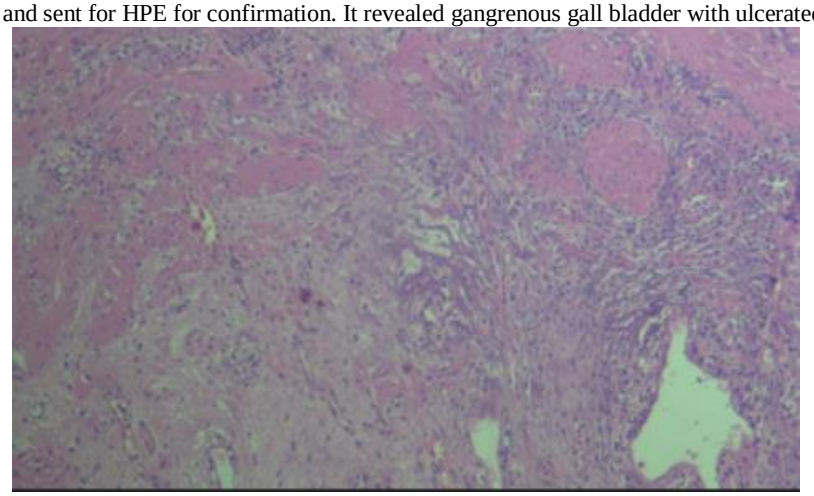

Figure 3: The patient was discharged after 3 days with stable vitals and no post-operative complications were present.

Discussion:

The gallbladder volvulus is a rare entity with approximately 500 documented cases in literature. The exact reason for the volvulus is not established, however many risk factors have been documented. The lack of visceral peritoneum to support the gall bladder due to embryological variation, results in a congenital floating gall bladder, susceptible to volvulus. Two anatomical variants are described [3] with

- Type A corresponds to a long and wide mesentery that supports the gallbladder and cystic duct and
- Type B includes an incomplete or absent mesentery that only connects the cystic duct to the liverAnother major risk factor includes a lack of supportive tissue like fat around the gall bladder fossa, resulting in a free-floating gall bladder. [4] Other risk factors include kyphoscoliosis, ageing, and weight loss. The provocation factor includes an increased cholecystokinin. [5]

The patients present with abdominal pain with a palpable lump, fever or jaundice. A triad was described by Lau et. al. An elderly thin patient with sudden onset right upper quadrant pain with emesis, and a palpable right upper quadrant mass with a non-toxic presentation. [6]

Serologic tests are non-specific and mimic any other inflammatory illness, with raised white cell counts. An ultrasonogram of the abdomen and pelvis cannot distinguish between acute cholecystitis and torsion. A contrast-enhanced computed tomography of the abdomen reveals a gall bladder fossa collection with twisting of the gall bladder at the pedicle. Magnetic resonance imaging and Magnetic Resonance Cholangiopancreatography is an excellent tool for detecting gall bladder volvulus. [7]

Medical management is not recommended as the volvulus has to be released. Percutaneous drainage of the gall bladder could be attempted as initial management of the torsion but is associated with an increased risk of bile leak and bile peritonitis. Cholecystectomy is the best treatment modality for gall bladder torsion with laparoscopic a preferred over laparotomy, due to lesser post-operative pain and shorter duration of stay. The principles associated with gall bladder torsion is decompression, detorsion and gall bladder removal. [8] Delayed surgery is associated with poorer outcomes.

Conclusion:

Gallbladder volvulus is a rare but critical condition requiring urgent medical intervention. Ultrasonography is typically the first imaging technique for diagnosis, and Doppler ultrasound should be utilized if gallbladder volvulus is strongly suspected. Early surgical intervention is crucial once the condition is identified to prevent complications such as gangrene, gallbladder rupture, and biliary peritonitis, all of which can significantly reduce survival rates.

Source(s) of support:
Nil
Conflicting Interest (If present, give more details):
No

Ethical committee clearance:
NA, Patient identity not revealed.

References:

1. Farhat W, Mabrouk MB, Ammar H, et al. (2019). Gallbladder volvulus: A case report and review of the literature. *Int J Surg Case Rep.*; 60:75-78.
2. Baig Z, Ljubojevic V, Christian F. (2021). The diagnostic dilemma of a gallbladder volvulus: An unusual case report and review of the literature. *Int J Surg Case Rep.*; 80:105614.
3. Gross RE. (1936). CONGENITAL ANOMALIES OF THE GALLBLADDER: A REVIEW OF ONE. HUNDRED AND FORTY-EIGHT CASES, WITH REPORT OF A DOUBLE GALLBLADDER. *Arch Surg*;32(1):131.
4. Shaikh AA, Charles A, Domingo S, Schaub G. (2005). Gallbladder volvulus: report of two original cases and review of the literature. *Am Surg*.;71(1):87-89.
5. Reddy PK, Muralidharan M, Venkatasubramanian R, Yuvaraja S. (2005). Laparoscopic derotation and cholecystectomy for torsion gallbladder. *JSLS*.;9(2):238-240.
6. Lau WY, Fan ST, Wong SH. (1982). Acute torsion of the gall bladder in the aged: a re-emphasis on clinical diagnosis. *Aust N Z J Surg*;52(5):492-494.
7. Keeratibharat N, Chansangrat J. (2022). Gallbladder Volvulus: A Review. *Cureus*.;14(3): e23362.
8. Garciavilla PC, Alvarez JF, Uzqueda GV. (2010). Diagnosis and laparoscopic approach to gallbladder torsion and cholelithiasis. *JSLS*.;14(1):147-151.