

CASE REPORT

Wandering Gallbladder: A Rare Cause of Acute Abdomen

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ABSTRACT

A wandering or floating gallbladder is a condition in which the gallbladder instead of being plastered firmly against the liver bed is suspended by a mesentery which is either complete or else surrounds the body and the fundus. The ensuing hypermobility makes the gallbladder more susceptible to torsion and necrosis, which can manifest as an acute abdomen. We describe a 90-year-old woman who had right upper quadrant pain with a wandering Gall Bladder.

Key words: Gall Bladder, Acute Abdomen, Cholecystectomy, Emergency

JMS: 2024; 27(2):32-35 DOI: <https://doi.org/10.33883/jms.v27i2.1347>

INTRODUCTION

A rare condition known as Wandering Gallbladder, which is challenging to detect before surgery, causes the gallbladder to hang from a mesentery that either surrounds the body and the fundus completely or is incomplete. There have been more than 500 recorded cases since Wendel¹ originally described it in 1898. Except for a few sporadic cases in the juvenile age range, the bulk of cases have been documented in the 60-80 years age range, with a 3:1 female gender preponderance². The cystic duct is often the only structure that connects the abnormally mobile gallbladder. Due to a long or wide mesentery with a cystic artery and duct, it is referred to as a 'floating' or 'pedunculated' gallbladder. A lengthy mesentery may develop in the elderly as a result of liver atrophy and visceral fat loss³. Gallbladder torsion often manifests as an acute abdomen necessitating emergency surgery. Due to the disease's generally vague symptoms, the majority of the time the definitive diagnosis is made only during surgery.

CASE REPORT

A 90-year-old woman who had experienced abrupt onset abdominal pain with vomiting, fever, and constipation for

one day came to our surgical emergency room. Before her presentation, she had gone 24 hours without passing any excrement or flatus. She denied having ever recently changed her bowel habits or any weight loss. Her medical history is notable for hypertension and a right hemicolectomy performed nine years ago for hepatic flexure growth. She had dehydration at the time of her presentation, with mild tachycardia. Although the abdomen appeared soft, the right hypochondrium showed pain and guarding. Digital rectal examination was unremarkable with normal bowel sounds on auscultation. USG of the abdomen showed a dilated gallbladder with a wall thickness of 8mm, soft tissue echogenicity measuring 20x7mm, and internal echoes that were suggestive of a soft tissue calculus with the impression of acute calcular cholecystitis. An increased WBC count of 11,300/mm³ with 87% neutrophils was found. She was admitted with a preliminary diagnosis of acute cholecystitis. Broad-spectrum antibiotics and analgesics were started after she was given IV fluids to help

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How to cite this article: Haq MF, Sofi J, Wani M, Mir Y, Malik A, Nazir F. Wandering or Floating Gallbladder Leading To Gallbladder Torsion and Gangrenous Cholecystitis: A Rare Cause of Acute Abdomen. JMS 2024; 27 (2)32-35

Received: 2024-03-19 Accepted: 2024-04-06

Access this article online



Website:
www.jmsskims.org

DOI:
<https://doi.org/10.33883/jms.v27i2.1347>



with resuscitation. The choice to prolong resuscitation was made due to the patient's advanced age, and delicate build. The next day, her discomfort was more intense and her abdomen was tenderer. White blood cell counts increased to 15,380/mm³, with 94% neutrophils. Although we did not initially suspect torsion in this case, additional imaging was ordered because the intensity of pain was unusual, inconsistent with, and unrelated to the ultrasound findings. Contrast-enhanced computerized tomography was done which exhibited a picture of acute cholecystitis, the gallbladder was noticeably distended (90 x 50mm), with enhanced wall thickening (8mm), pericolic fat-stranding, and enlarged lymph nodes were witnessed. Between the liver and the diaphragm, there was evidence of the transposition of the transverse colon, and bone windows revealed generalized osteoporosis.

The decision to do an emergency laparotomy was made after that. An upper midline incision was used to perform an emergency laparotomy under the assumption that the patient had acute calculous cholecystitis and possible Cheladiti Syndrome. At laparotomy, observations included a big, gangrenous gallbladder with a 360-degree clockwise torsion along its long pedicle, flexed towards midline into a vertical position, and a fundus pointing vertically down (FIG 1).

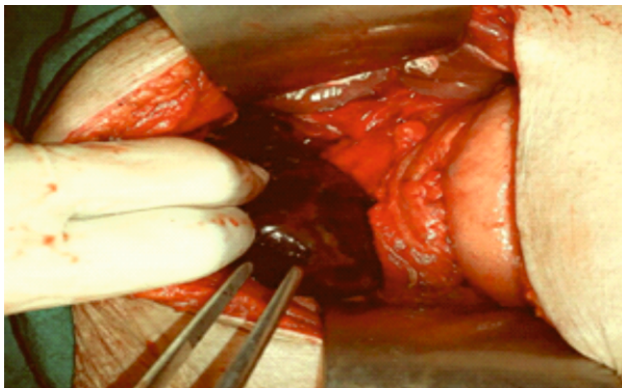
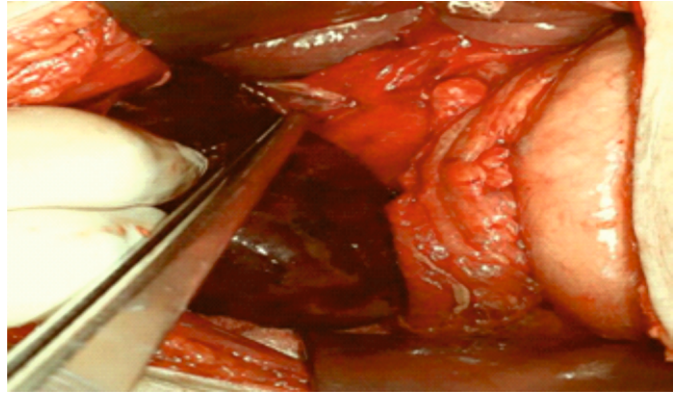


Fig. 1: The distended, necrotic, free-floating gall bladder with fundus pointing vertically down (tip of forceps) beside the ileo-transverse anastomosis and the stomach

The gallbladder was completely free of the liver, however, there were some peritoneal haemorrhages. The cystic artery was thrombosed. (FIG 2)



The torsion was undone, making the cholecystectomy simple. The gallbladder was significantly enlarged, measuring 9 x 5 cm with a wall thickness of 2 cm and we noted the presence of congestion and bleeding in the gallbladder wall. The mucosa was not recognised. There were no signs of cholelithiasis. The patient was shifted to ICU post-operatively and was discharged on the seventh post-op day.

DISCUSSION

Wendel initially described a free-floating or wandering gallbladder in 1898, using the phrase "floating gallbladder" to refer to a gallbladder that was pedunculated and suspended only by a cystic duct mesentery. Since then, the medical literature has documented almost 500 episodes of gallbladder torsion, but only about 10 cases of a wandering gallbladder. It is more common in females in their seventh and eighth decades of life and has been estimated to occur in 1 in 365,520 hospital admissions⁴.

Our Case report illustrates the age and gender distribution of torsion-prone individuals (age is greatest in the eighth and ninth decades with a 3:1 female preponderance). It has been documented in other age groups as well, even though it primarily affects the elderly, particularly women^{2,4}. While the precise cause is unknown, it is believed that a lengthy gallbladder mesentery with little to no attachment to the liver makes it easier for the gallbladder's longitudinal axis to twist on its vascular root, which causes ischemia, necrosis, and perforation. Furthermore, a trigger can cause the gallbladder to rotate around a set location, typically the cystic duct. There are additional elements, though, that have been suggested as having substantial causal significance. The other suggested explanation is the generalized reduction of visceral fat in older people. These elements

help to liberate the gallbladder from the liver, allowing it to hang loosely in the peritoneal cavity^{2,3,4}. Other contributing variables include the existence of kyphoscoliosis, arteriosclerosis of the cystic artery, and increased or violent peristalsis of the surrounding organs, such as the stomach, duodenum, and colon. Two different types of torsion were characterized by Carter et al.⁵: complete torsion (rotation > 180 degrees), which manifests itself suddenly as was seen in our case, and incomplete torsion (rotation 180 degrees), which manifests itself gradually. With subsequent ischemia and gangrenous alterations, gallbladder torsion causes an occlusive blockage of biliary drainage and blood flow. Both clockwise and anticlockwise torsion have been documented with comparable frequency⁶. Our case had a 360° Clockwise torsion.

Because the signs and symptoms of gallbladder torsion are generally ambiguous, it can be challenging to make a preoperative diagnosis based solely on a medical history and physical examination as was evident in our patient. Usually, the patient will complain of intense stomach pain, either with or without vomiting. There may or may not be a tender movable lump signifying a "floating gallbladder." Symptoms of discomfort, fever, and tenderness around the right hypochondrium were noted in our patient.

Three categories of clinical presentation were proposed by Lau et al.⁷, including:

1. Patient characteristics (elderly, skinny, malformed spine),
2. Particular symptoms (brief history, pain in the right upper quadrant, early-onset nausea)
3. Physical indicators (abdominal mass, abnormal heart rate or temperature, but no jaundice or toxicity).

Although the clinical characteristics may resemble acute cholecystitis, the rarity of fever and jaundice, the lack of toxemia, and the poor response to antibiotic therapy can help distinguish the two conditions⁸.

It is typically difficult to distinguish it from acute cholecystitis using biochemical studies. Increased white blood cell count and are common symptom, particularly when gangrenous cholecystitis first manifests. In patients with gallbladder torsion, liver function tests are typically unremarkable⁶. Although sometimes nonspecific, imaging with USG and CT may complement the diagnosis of

gallbladder torsion^{4,8}. An ultrasound scan would typically show the enlarged gallbladder to have a thicker wall and to be encircled by free fluid inferior or medial to its normal anatomical position[9]. High signal intensity within the gallbladder wall on T2 weighted pictures suggests haemorrhagic infarction and necrosis by magnetic resonance imaging (MR) imaging findings⁹. Gallbladder torsion may be indicated by the presence of a big anteriorly floating gallbladder outside of its typical anatomical placement, together with Gross wall thickness and no gallstones, in an older woman with kyphosis as was seen in our patient.

It's critical to identify gallbladder torsion early in order to prevent complications like perforation and bilious peritonitis. It has been demonstrated that an early diagnosis and fast surgical procedures can lower mortality to under 5%³. Gallbladder torsion necessitates an urgent cholecystectomy. Before, open surgery was mostly used to treat this condition, but as laparoscopic cholecystectomy has become more common, it is now advised as the primary option.

CONCLUSION

The diagnosis of this entity can be aided by more advanced diagnostic imaging tools, however the operation is typically when the final diagnosis is made. Early surgical intervention is required to avoid the potentially fatal complications of bilious peritonitis, GB perforation, and increased morbidity and mortality brought on by the problem. Even though gallbladder torsion is an incredibly rare occurrence, it should nevertheless be taken into consideration when there is no simple gallstone obstruction present or when investigation results do not match the clinical presentation.

Conflict of interest: None

Written informed consent: taken

Competing interest : None

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