

## Gallbladder volvulus

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### Abstract

Gallbladder volvulus or torsion; is an uncommon cause of acute abdomen and occurs by rotation of the gallbladder on its mesentery. The entity commonly misdiagnosed as cholecystitis before laparotomy, although it has some critical findings that alert physician for correct diagnosis. A 47 years old male patient admitted to our emergency department with right upper quadrant pain, and then progressed through abdominal rigidity indicating acute abdomen, was subjected to laparotomy. At surgery; gangrenous and rotated gallbladder was observed and cholecystectomy was performed. Early diagnosis and prompt surgical treatment is mandatory to lower the complications of this entity. Clinical signs and radiographic studies should guide physicians for proper diagnosis of gallbladder torsion.

**Keywords:** Gallbladder volvulus, Gallbladder torsion, Floating gallbladder.

### Introduction

Gallbladder volvulus, a rare entity which can cause acute abdomen; was defined by Wendell in 1898 and approximately 400 cases had been reported in the literature.<sup>1</sup> Patients present with right upper quadrant pain and may have some specific physical examination and imaging findings for correct diagnosis. In this case report we describe a gallbladder torsion first mimicking acute cholecystitis then with the findings of acute abdomen.

### Case Report

A 47-years-old male patient admitted to our emergency department with right upper quadrant pain. The patient had no specific finding except right upper quadrant tenderness on physical examination. Whole blood count and liver function tests were in normal limits. His ultrasonographic examination revealed layered and thickened gallbladder wall up to 18mm and pericystic, perihepatic, perisplenic free fluid accumulation. His physical examination showed abdominal rigidity and the patient was taken for emergency laparotomy. During surgery, the clockwise rotated and gangrenous gallbladder was observed and cholecystectomy was performed. The patient was discharged on seventh day of surgery.

### Discussion

Gallbladder Volvulus is characterized by clockwise or counterclockwise rotation of the viscera on its mesentery. This rotation causes interruption of its arterial supply and bile flow, which is responsible for the clinical appearance. Thickening of gallbladder wall, hydrops and gangrene develop respectively by the torsion of gallbladder. It is seen in all ages but with tendency older patients, with female predominancy.<sup>2</sup>

Loss of visceral fat, liver atrophy, presence of a long mesentery seems to be the major etiological factors. These conditions make the gallbladder more mobile, resulting in floating and the torsion of gallbladder.<sup>3,4</sup> Weight loss and spinal deformities are other predisposing factors for this condition. The role of gallstones are of less importance because more than half of the patients had no gallstones.<sup>5,6</sup>

The physical examination reveals a tender mass at right upper quadrant that leads the physician to misdiagnosing the entity as cholecystitis. The tender and mobile mass indicates a floating gallbladder, and alerts the physician for torsion of gallbladder. Abdominal rigidity in our case, lead to emergency laparotomy, where the exact diagnosis was made. The ultrasonographic examination may show floating gallbladder, thickened gallbladder wall without gallstones and presence of the gallbladder outside its normal anatomic fossa. The abdominal tomography may also show horizontally displaced gallbladder and fluid collection between gallbladder and liver indicating "floating gallbladder". Magnetic resonance imaging (MRI) findings include high signal intensity within the gallbladder wall on T1 weighted images, suggesting necrosis and haemorrhage consistent with gallbladder torsion.<sup>7</sup>

### Conclusion

The treatment of gallbladder volvulus is detorsion and cholecystectomy. Both laparotomic and laparoscopic technique may be used.

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