

Gallbladder Torsion and the Acute Abdomen



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Introduction

Gallbladder torsion is an uncommon and rare cause of acute abdomen that was first described by Wendel in 1898 [1]. This disease is more frequently encountered in elderly females, with 85% of the cases reported between the ages of 60 to 80 years and a female preponderance of a 3:1 ratio to males [2]. The torsion is thought to occur when there is rotation of the gallbladder along the cystic duct and vascular pedicle. Several factors have been proposed to cause this rotation including the presence of a very long mesentery or a very short/absent mesentery, that allow mobility of the gallbladder around its axis, and a generalized loss of elastic tissue and visceral adipose in the elderly. These factors then contribute to the non-fixation of the gallbladder to the inferior margin of the liver, causing the gallbladder to hang freely in the peritoneal cavity [1]. The torsion may be a complete 360 degrees resulting in strangulation and gangrenous cholecystitis or incomplete through a 180 degree rotation, causing intermittent symptoms of biliary colic [3]. Historically it has been hard to diagnose on pre-operative imaging, but advances in imaging techniques over the last 20 years have enabled quicker diagnoses and hence prompt surgical intervention.

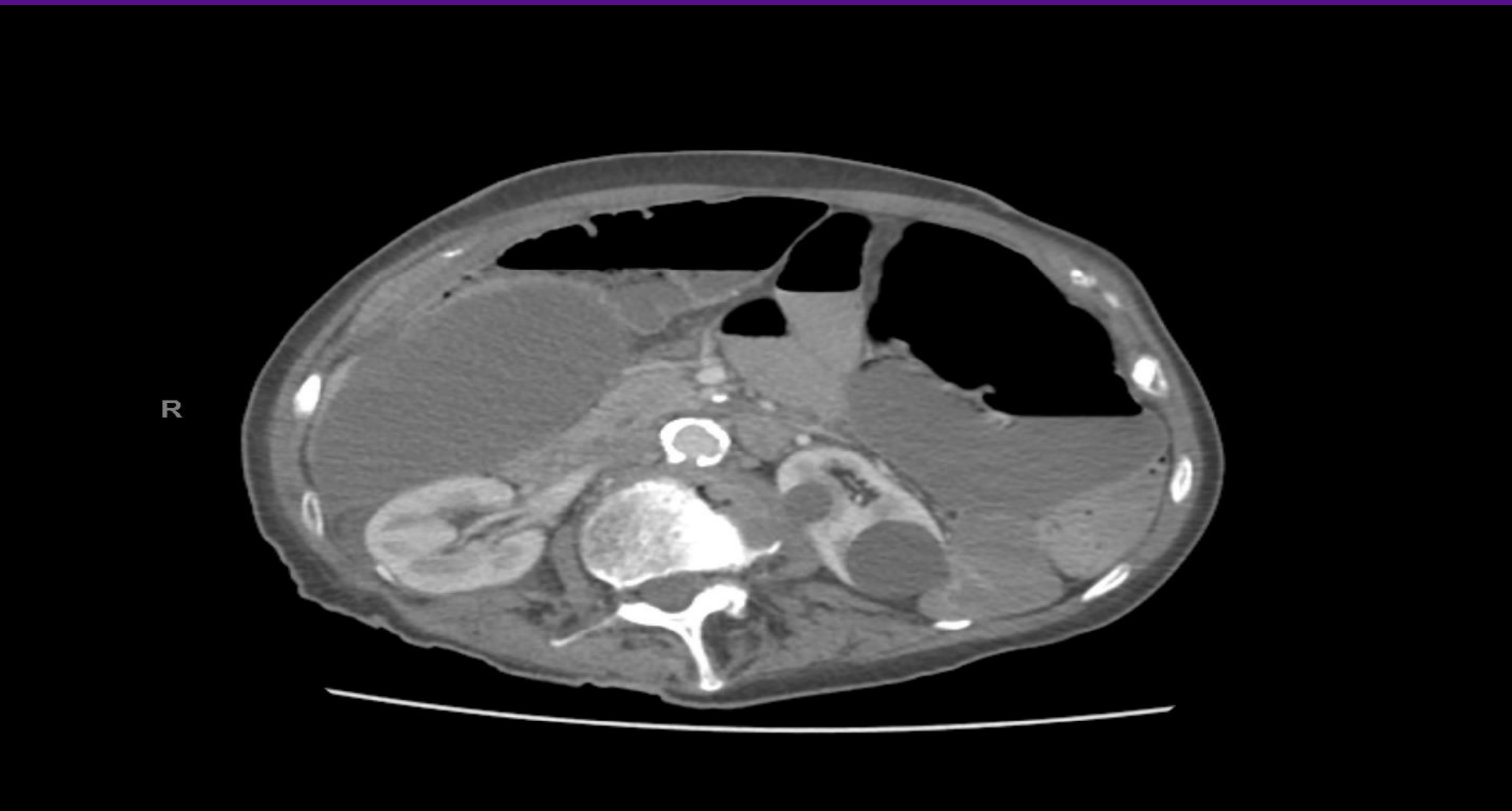
Case Presentation

This is a case of a 90 year old woman who was admitted to the medical service for abdominal pain and distention in the setting of chronic constipation. CT was performed that read as constipation and diffuse periportal edema and wall thickening with a moderately distended gallbladder without gallstones, likely related to volume status with no concern for cholecystitis. The next evening the patient was noted to have an increase in abdominal distention and over a 50 percent increase in her WBC from 13.7 on admission to 44.2. Repeat CTAP was performed, this time significant for a markedly distended gallbladder measuring 10.5x 6.2 cm in AP dimension in a horizontal lie configuration, highly concerning for gallbladder torsion, with fundal inflammatory changes, hyperattenuating material in the gallbladder lumen concerning for hemorrhage, and a non-enhancing gallbladder wall concerning for cholecystitis and gangrenous changes. General surgery was emergently consulted, who found the patient to have an acute abdomen and the patient was brought urgently to the operating room.

Figure 1: Admission CTAP



Figure 2: Repeat CTAP showing gallbladder torsion



Findings/Procedure

The patient was placed in a supine position and the usual laparoscopic cholecystectomy ports placed. Immediately upon entry to the abdomen with the laparoscope the colon was found to be diffusely distended with right upper quadrant adhesions overlying a diffusely distended, gangrenous gallbladder. The lesions were lysed, and 100 mL of hemorrhagic fluid drained from the gallbladder to aide in visualization. The gallbladder was found to be torted, and was subsequently detorted counterclockwise 360 degrees. Once retracted superiorly, dissection ensued and the critical view was obtained, with clips applied to the cystic duct and artery, and the gallbladder removed from the gallbladder fossa and subsequently the abdominal cavity. The abdomen was irrigated with hemostasis ensured and a drain placed in the gallbladder fossa. The fascia was closed and the patient brought to the recovery room with no apparent complications

Conclusions

Although rare, gallbladder torsion should be in the differential for elderly female patients presenting with an acute abdomen without evidence of gallstones. Due to the difficulty of preoperative diagnosis prompt surgical intervention it often delayed resulting in gangrenous and strangulated gallbladders- such as it was in this case. In conjunction with radiologists and a multidisciplinary approach, this diagnosis can be made quicker, resulting in prompt surgical intervention and excellent patient prognoses.

REFERENCES

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