

## Case Report: Laparoscopic removal of giant gallbladder stone: A rare case report in Kuwait



Issue Type: Volume 1 Issue 3

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**Citation:** Ahmad E. Al-Mulla M.D., Laparoscopic removal of giant gallbladder stone: A rare case report in Kuwait

**Received Date:** 17th Sept 2021

**Published Date:** 28th Sept 2021

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### ABSTRACT

Gallbladder stones are a typical surgical diagnosis, with over a million procedures performed worldwide. Laparoscopic cholecystectomy is considered the first-choice treatment and procedure. The size of gallbladder stones varies from a few millimetres to giant/large stones. Larger stones have complex anatomy and adhesions, so the laparoscopic approach can be challenging, rare, and requires higher surgical experience.

**Keywords:** Giant gallbladder stone, cholecystitis, laparoscopic cholecystectomy, gallbladder stones.

### Introduction

Gallbladder stones are one of the most common surgical diagnoses (1). Twenty-five million patients are diagnosed annually, and approximately one million will require surgical intervention (2). Laparoscopic cholecystectomy (LC) was established in the 1990s and is now considered the gold standard procedure to replace open cholecystectomy (3). The procedure is safe and efficient but can sometimes be challenging. Thus, the procedure requires an expert surgeon. In this case, we present an unusual, challenging presentation of a giant/large gallbladder in a patient with a two-year history of chronic abdominal and right upper quadrant (RUQ) pain.

### Case report:

A 38-year-old gentleman was admitted through our accident and emergency department, complaining of a four-day history of epigastric and RUQ pain associated with nausea, vomiting, and fatty dyspepsia. He had a previous attack two years ago that was managed conservatively with antibiotics. Upon examination, he had a tachycardic pulse (140 bpm), was afebrile (37°C), and had a BP of 140/85 mmHg. Abdominal examination revealed a tender RUQ and an epigastrium with a positive Murphy sign. Ultrasound on the abdomen showed a thickened and contracted gallbladder over an exceedingly large stone (figure 1), no pericholecystic fluids, and a common bile duct (CBD) of standard size. Laboratory tests showed increased white blood cell count (WBC) of  $18 \times 10^9$  and an elevated C-reactive protein (CRP; 50 mg/dL); other blood tests were unremarkable. He was scheduled for an emergency laparoscopic cholecystectomy.

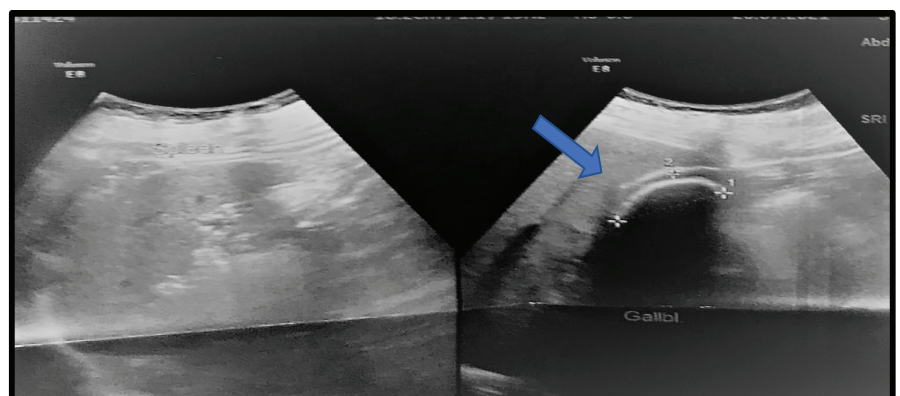


Figure 1: abdominal ultrasound of gallbladder contracted on giant stone.

### Intra-operative:

The gallbladder had a thickened wall and was contracted around a large stone with dense omental adhesion. It was successfully dissected laparoscopically, and the cystic artery and duct were safely clipped. The large stone (7x4 cm) and the gallbladder were removed via endo-bag through the umbilical port (Figure 2). A drain was placed intra-abdominally, and the ports were removed and closed under vision.

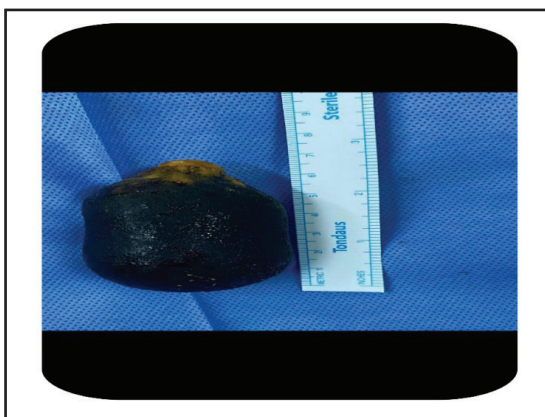
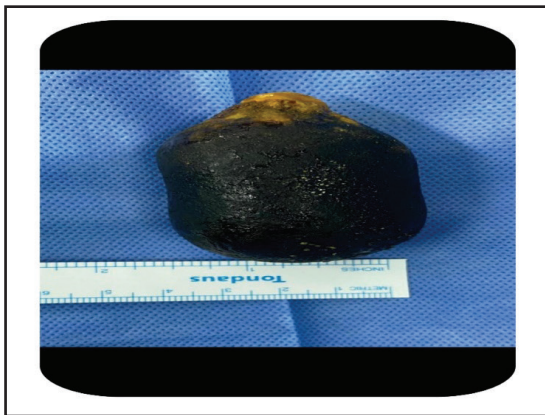


Figure 2: A giant gallbladder stone.

### Post-operative:

The patient remained in the hospital for two days to receive antibiotics and follow up on the drain. He was discharged when the drain became nil. The first outpatient visit was uneventful; he had clean wounds and was tolerating the diet with no abdominal symptoms. Histopathology revealed an inflamed gallbladder with a reactive lymph node.

### Discussion:

Laparoscopic cholecystectomy (LC) is a common surgical procedure (4). It is performed as an elective or emergency. LC is performed more in females than males (5). Lipid metabolism deficiency, supersaturated bile concentration, and cholesterol can cause gallbladder stones (GBS). It is rare for someone to develop gallbladder stones earlier in life, the chance increases with age. Women are more affected than men, with a ratio of 4:1. Obesity and diabetes are predisposing factors that increase cholesterol, bile motility, and bile concentration (6). The gallbladder stone can be symptomatic or asymptomatic. GBS can be diagnosed through a combination of clinical assessments, laboratory tests, and imaging. Gallbladder disease can be symptomatic or asymptomatic. Symptomatic gallbladder disease may have a variant presentation, ranging from mild to severe. Ninety-six per cent of gallbladder diseases are treated with laparoscopic

cholecystectomy (7). Nevertheless, special presentations may require open cholecystectomy (8).

Gallbladder stones larger than 5 cm are rare; in our case report, the diameter of the gallbladder stone was approximately 7x4 cm. Many surgeons consider open cholecystectomy necessary for large-sized stones. Few case reports in the literature mention treating giant gallbladder stones laparoscopically (9). Complex anatomy often necessitates conversion, as most of the cases present with a thickened gallbladder wall, severe adhesions, and an ambiguous Calot's triangle (10). Another obstacle surgeons face is stone retrieval, which requires an open approach or extended port incisions. In our case, we retrieved the stone via umbilical port and endo-bag to avoid spillage and wound extensions.

### Conclusion:

Most giant gallbladder stone removals occur through open cholecystectomy; only a few are completed laparoscopically. Our case report is a rare presentation of a > 5 cm gallbladder stone handled laparoscopically, without any complications intra-operatively or post-operatively.

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