International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

# Laparoscopic Approach Over Open Cholecystectomy for Giant Gallstone Disease: A Case Report

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**Abstract:** ***Giant gallstone is defined as those stones exceeding 5 cm in size, is exceptionally uncommon, with very few documented cases in the scientific literature. This case represents a rare occurrence in India, where a patient with an exceptionally large gallstone underwent successful laparoscopic cholecystectomy surgery. A 46 - year - old man presented with right upper abdominal pain and fever one week post - PCNL. Imaging revealed a distended gall bladder containing a large calculus. Laparoscopic cholecystectomy revealed moderate adhesions and a thickened gall bladder wall with a size 7 * 5 cm solitary gallstone. Histopathological analysis indicated acute on chronic cholecystitis with no signs of malignancy.***

**Keywords:** Giant Gallstone Disease, Percutaneous Nephrolithotomy, Renal Calculi, Laparoscopic Cholecystectomy

## 1. Introduction

Gallstones represent a persistent and recurring condition resulting from inadequate breakdown of cholesterol, bilirubin, and bile acids. They impact approximately 4% of the population in India and 10% in Western countries [1]. Intriguingly, more than 80% of gallstones are asymptomatic, with only 2% exhibiting symptoms annually, occasionally leading to complications. In individuals lacking obvious biliary symptoms, gallstones are often incidentally discovered during imaging procedures such as ultrasonography, MRCP, or laparotomy. Approximately 3% of asymptomatic individuals develop symptoms each year, yet nearly two - thirds remain asymptomatic even after two decades [2].

Gallstones that surpass 5 cm in diameter are labeled as "giant gallstones, " a rare occurrence with limited documentation in the literature [3]. A review of existing literature indicates a shortage of published data on giant gallstone disease from Indian sources. This case report provides detailed insights into the successful management of a giant gallstone case through laparoscopic cholecystectomy at a tertiary care hospital in India.

## 2. Case Presentation

A 46 - year - old man presented with upper right abdominal pain and fever one week post - PCNL for right - sided renal calculi. Clinical examination revealed tenderness in the right upper quadrant. Imaging via abdominal ultrasound showed a distended gall bladder containing a large calculus. Laparoscopic cholecystectomy was performed, revealing moderate adhesions and a thickened gall bladder wall with a size 7* 5 cm gallstone [figure.1]. There was difficulty holding gallbladder neck with 5 mm instrument, therefore a 10 mm extractor used to hold gallbladder during dissection. Epigastric port incision increased medially for extraction of gallbladder with giant gallstone to avoid injury to superior epigastric artery lying within rectus sheath. The patient recovered uneventfully and was discharged four days post - surgery.


**Figure 1:** Gallbladder with Giant Gallstone 7*5 cm

## 3. Discussion

demographic data suggested women, particularly during their reproductive years, tend to be more susceptible to gallstones, possibly due to heightened estrogen levels, which can elevate bile cholesterol and decrease gallbladder activity [4]. Our case, involving a male patient, is uncommon, adding a novel aspect to the presentation. Gallstone prevalence rises with age, being 4 to 10 times more prevalent after 40 years [5]. Most gallstones are asymptomatic, often discovered incidentally during routine abdominal ultrasonography. Symptomatic gallstones may manifest as biliary discomfort, cholecystitis, or biliary obstruction. Ultrasonography (USG) serves as the primary diagnostic tool, boasting high specificity and sensitivity [6]. Our patient's abdominal ultrasound accurately measured the enormous gallstone size, aiding in surgical planning and potential complication assessment.

Individuals with gallstones larger than 3 cm face a significantly higher risk of gallbladder cancer [7]. Additionally, these large stones pose risks of biliary - enteric fistula and gallstone ileus, potentially necessitating surgical intervention. Laparoscopic cholecystectomy, unless hindered by anatomical exposure challenges, is the preferred approach. Numerous studies advocate for laparoscopic over open cholecystectomy due to fewer complications and quicker recovery. Our patient underwent a smooth recovery without the need for conversion to open surgery.

Giant gallstones often require open cholecystectomy due to severe inflammation and technical complexities [8]. Factors such as inflammation, emergency surgery, comorbidities, advancing age, and male gender increase the likelihood of conversion [9]. However, laparoscopic cholecystectomy may still be attempted, even in challenging cases [10]. Our case underscores the successful laparoscopic management of an unusually large gallstone in India.

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