

Case Report of a Giant Gall Bladder Calculus: A Rarity Among the Commonest

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Abstract: *Gallstones, though a common occurrence in Southeast Asia, occasionally manifest in extraordinary sizes that challenge the norms of modern surgical practice. In my view, this case of a 69-year-old woman presenting with a 7.5 cm cholesterol gallstone underscores both the unpredictable nature of gallstone pathology and the resilience of minimally invasive surgical techniques. Despite dense pericholecystic adhesions and a distended gallbladder, laparoscopic cholecystectomy was successfully performed, reflecting the surgeon's precision and the adaptability of current operative methods. What stands out here is not merely the technical achievement but the broader clinical insight it offers: giant gallstones, though rare, may present without acute systemic symptoms, demanding vigilance in diagnosis and a tailored surgical approach. The postoperative course was uneventful, with the patient achieving full recovery and a symptom-free follow-up, reinforcing the safety of laparoscopy even in complex cases. This suggests that the balance between technological advancement and surgical judgment remains at the heart of effective clinical care. From a broader perspective, it is evident that lifestyle, hormonal, and metabolic factors continue to play intertwined roles in gallstone formation-reminding us that prevention through balanced diet and metabolic control is as crucial as the cure itself.*

Keywords: Giant gallstone, laparoscopic cholecystectomy, chronic cholecystitis, cholesterol stone, Southeast Asia

1. Background

Gallstones are prevalent in Southeast Asia, particularly in the Gangetic region of India. While gallstones larger than 5 cm are rare, they are associated with a higher risk of complications, such as Cholecysto-duodenal fistula formation. One of the largest gallstones reported in the Asian subcontinent measured 16.8 cm and was complicated by a hepatic abscess. In the era of minimally invasive surgeries, laparoscopic cholecystectomy is the gold-standard treatment for gallstones in. However, when dealing with complicated giant gallstones, minimally invasive approaches may face significant technical challenges due to the presence of dense adhesions and the large size of the stone.

2. Case Presentation

We report here the case of a 69 year old female patient who presented at the General Surgery OPD with complaints of on & off pain abdomen, nausea, vomiting with loss of weight and appetite since last 5-6 months.

On examination, patient was moderately built and nourished, without any signs of pallor & icterus. Patient was afebrile. On per-abdominal examination abdomen was distended, umbilicus was inverted and in the midline, all quadrants were moving equally with respiration without any visible pulsations & peristalsis. Upon palpation a smooth, firm, globular mass palpated at the right hypochondrium. It was mildly tender on deep palpation without any associated local rise in temperature. All other organ systems were normal.

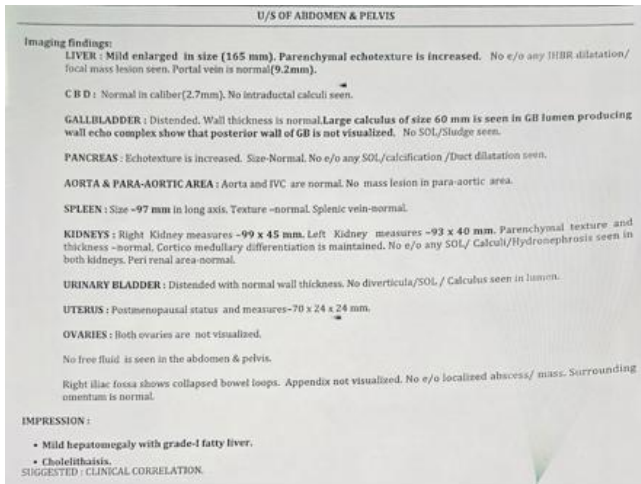
After routine workup, patient was planned for elective Laparoscopic Cholecystectomy (** All blood parameters were within normal limits).

Intraoperatively, dense peri-cholecystic adhesions were noted along with an over-distended Gall Bladder with a short Cystic duct. Meticulous pericholecystic adhesiolysis was done and a safe laparoscopic cholecystectomy was performed without any undue complications. The umbilical port site incision was extended and Gall Bladder was extracted using a retrieval bag via the umbilical port. The patient was followed up for 3 months and has been found to be leading a symptom free life following surgery.

After incising the Gall Bladder, a large, dark brown to black in colour, irregularly shaped calculus with uneven surface and irregular margin was noted. The calculus measured 7.5 cm x 4.5 cm x 3 cm (measured in its greatest dimensions). Weight of the calculus immediately after extraction was 80gm. Dry weight after 6 months was found to be 50gm.

The excised specimen of Gall Bladder was sent for Histo-Pathological Examination and a tiny fragment of the calculus was sent for stone analysis.

The HPE report of the excised specimen of Gall Bladder was found to be Chronic Cholecystitis and the stone analysis report suggested it to be consisting of 100% cholesterol.



(a) USG Abdomen & Pelvis



(C) Extracted specimen of GB with Calculus within



(B) Intra-op picture showing edematous GB with short cystic duct



(D) Incised GB showing a large black to dark brown calculus

Stone Analysis, Gall bladder calculus	
METHOD	FTIR - Fourier Transform Infrared Spectrometry
SAMPLE TYPE	Gall Bladder Stone
SIZE	Multiple Stone (16 mm X 16 mm)
WEIGHT	0.143 gms
RESULT (STONE COMPOSITION)	Cholesterol (100%)
Medical Remarks: Bilirubin present: Done by biochemical method	
Interpretation Gall Stones: The composition of gallstones is affected by age, diet. High fibre, low fat diet, adequate vitamin intake are general recommendations to prevent gallstones. On the basis of their composition, gallstones can be divided into the following types: - Cholesterol stones- comprised at least 80% cholesterol by weight - Pigment stones- comprise bilirubin and calcium salts that are found in bile & contain less than 20% of cholesterol by weight - Mixed stones - Mixed gallstones typically contain 20-80% cholesterol by weight & other constituents like calcium carbonate, palmitate, phosphate, bilirubin, and other bile pigments.	

(D) Stone Analysis Report

3. Discussion

A **gallstone** is a solid formation that develops within the gallbladder due to the precipitation of bile components such as **cholesterol, bilirubin, and calcium salts**. These stones can vary in size, composition, and colour, and their presence in the gallbladder is termed **cholelithiasis**.

Gallstones may remain asymptomatic or lead to complications such as **biliary colic, acute cholecystitis, choledocholithiasis, and gallstone pancreatitis**. Their composition generally classifies them into **cholesterol stones, pigment stones, or mixed stones**, each associated with different risk factors and pathophysiological mechanisms.

Risk Factors

Several factors increase the risk of gallstone formation, including:

- **Hormonal factors** – Use of birth control pills and pregnancy
- **Genetics** – A family history of gallstones
- **Metabolic conditions** – Obesity, diabetes, and rapid weight loss
- **Liver disease** – Altered bile composition and impaired bile secretion

Gallstones may be suspected based on clinical symptoms such as **biliary colic, nausea, and right upper quadrant pain**. Diagnosis is typically confirmed using **ultrasound**, which is the preferred imaging modality. Blood tests may be used to detect complications like **cholecystitis, cholangitis, or gallstone pancreatitis**, assessing markers such as **bilirubin, liver enzymes, and inflammatory markers**.

Adopting a **healthy lifestyle** can significantly reduce the risk of gallstone formation. Key preventive measures include:

1) Diet and Lifestyle Modifications

- a) **Maintaining a healthy weight** through regular exercise
- b) **Eating a high-fiber diet**, which promotes proper digestion and bile composition
- c) **Avoiding rapid weight loss**, as it can lead to bile supersaturation with cholesterol

2) Medical Prevention During Weight Loss

- a) **Ursodeoxycholic acid (UDCA)** has been shown to prevent gallstone formation in individuals undergoing rapid weight loss by improving bile composition.
- b) **A high-fat diet during weight loss** may help keep the gallbladder actively contracting, reducing bile stasis and the risk of stone formation.

Cholecystectomy, the surgical removal of the gallbladder, is the most effective treatment for gallstones, with a **99% success rate** in preventing recurrence of **cholelithiasis**. This procedure is commonly performed when gallstones cause complications such as **biliary colic, cholecystitis, or gallstone pancreatitis**.

- 1) In most people, the absence of the gallbladder **does not cause significant digestive issues**, as bile continuously flows from the liver to the small intestine.
- 2) However, **10–15% of patients** experience **postcholecystectomy syndrome (PCS)**, which may include:
 - **Nausea and indigestion**
 - **Diarrhoea** due to continuous bile flow
 - **Abdominal pain** mimicking gallbladder symptoms

Conflict of interest statement

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