

# Aberrant Acute Calculous Cholecystitis with 740 Gallstones: A Rare Case Report

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## ABSTRACT

Gallstone disease remains the cause of morbidity and mortality since ancient times. In India, it is considered to be approximately 4%, whereas it is 10% in the Western countries. Cholesterol super saturation lies at the heart of gallstone formation. Our case report is about 62 years old female patient presented with high grade intermittent fever, right upper quadrant abdominal pain radiating to the back, nausea and vomiting of two days duration. She was acutely sick looking with a blood pressure of 100/70 mmHg, pulse-rate of 120, respiratory rate of 24 breaths per minute and temperature measuring 40.6°C. We did interval laparoscopic cholecystectomy and find out thickened fibrous gall bladder wall with 740 stones of size ranging from 0.5 cm to 1.8cm inside it. Gallstone disease is one of the most prevalent gastrointestinal disorders since ancient times and management of its complications incurs significant economic burden. Age and female sex considered strong risk factors compared to other risk factors. Solitary stone and younger age were the most prominent predictors of severe inflammation. Surgery is the mainstay of management for symptomatic gallstone diseases and in selected conditions of asymptomatic cases

**Keywords:** Multiple gallstones; Acute cholecystitis; laparoscopic Cholecystectomy; Gallbladder carcinoma

## INTRODUCTION

Gallbladder stones are more common in some regions of the world than others. In India, it is considered to be approximately 4%, whereas it is 10% in the Western countries. Gallstone disease remains the cause of morbidity and mortality since ancient times. Other studies find out about one-quarter of the women are affected with it. The occurrence parallels with the risk of metabolic syndrome and obesity [1,2]. Based on morphology and biochemical constituent gallstones have two broad classes of cholesterol and pigment stone grouping. Cholesterol super saturation lies at the heart of gallstone formation. Pigment stones formed due to infections or hemolytic hematologic conditions [3]. Increased

fertility, female sex, obesity, ageing are some of the risk factors [4] which shows the complex interaction of genetic, environmental and metabolic risk factors [5]. About one-third of patients diagnosed with gallstone diseases will develop complications or recurrent symptoms ending up with cholecystectomy [6]. Gallstones could be asymptomatic in most cases or patients could present with acute cholecystitis, chronic/recurrent cholecystitis, jaundice, cholangitis, and pancreatitis or in rare cases with gallstone ileus [7]. Long standing gallstones will permanently irritate gall bladder mucosa and are strong risk factors for gall bladder carcinoma [8]. It is uncommon to have a finding of hundreds of gallstones and there was no report of such

finding in literatures. We present the case of thickened and fibrosed gallbladder with hundreds of gallstones inside

### CASE REPORT

62 years old women presented to our emergency department with high grade intermittent fever, right upper quadrant abdominal pain radiating to the back, nausea and vomiting of two days duration. She dates back her complaint of nausea, fatty food intolerance, loss of appetite and early satiety for one year. She has no weight loss, abdominal swelling or bowel habit change by the time of her presentation. Otherwise, she has no history of other chronic illness. Upon physical examination she was acutely sick looking with a blood pressure of 100/70 mmHg, pulse-rate of 120, respiratory rate of 24 breaths per minute and temperature measuring 40.6 degree Celsius. No positive chest or cardiovascular finding. She has significant right upper quadrant tenderness (positive Murphy sign) but no sign of abdominal fluid collection. Blood work showed leukocytosis with left shift (WBC=26,120, Granulocyte=90.3%), moderately elevated liver function tests (AST=92.2, ALT=92, Alkaline phosphatase=79), normal level of bilirubin and lipid profiles. Abdominal ultrasound showed multiple gall stones with thickened gall bladder and pericholecystic fluid collection. Sonographic Murphy sign was also positive. Then with the diagnosis of acute calculous cholecystitis, we started her on broad-spectrum antibiotics and intravenous fluid resuscitation. Subsequently her condition improved with fever subsides, tolerated diet intake, liver function normalizes and patient discharged home with the advice for interval cholecystectomy after 6 weeks. After six weeks we reinvestigated her with complete blood count, liver function test and bilirubin level which all turns to be normal. Abdominal ultrasound showed contracted gall bladder with full of stones inside but intrahepatic and extrahepatic biliary tree were normal in size. She was admitted for

elective laparoscopic cholecystectomy and essential preoperative preparation was done. Intraoperatively, gallbladder forms dense adhesion with transverse colon, common bile duct and stomach. Upon releasing the adhesion, the gall bladder appears as a mass like consistency with full of stones inside and one gallstone impacted in the cystic duct. Cystic duct and cystic artery dissected, ligated and divided. We did laparoscopic cholecystectomy and sectioning showed thick fibrous gall bladder wall with 740 stones of size ranging from 0.5 cm to 1.8 cm inside it (Figure 1). The stones were mixed with pigment stones and cholesterol stones and bile culture has growth of *Escherichia coli* and *Klebsiella* species. The patient has fast recovery from surgery and we discharge home on 2nd post operative day. She was doing fine on subsequent visits.



Figure 1

### DISCUSSION

Gallstone disease is one of the most prevalent gastrointestinal disorders since ancient times and management of its complications incurs significant economic burden [1]. Age and female sex considered strong risk factors compared to other risk factors [2,4]. The number and size of stone differ among patients. Size is considered as single most independent risk factor for carcinoma rather than number of gallstones in previous studies but the ongoing question whether number is also a factor is still unanswered [8]. Roa et al. [7] studied and showed 76% of patients with gallbladder carcinoma harbor multiple stones while

those with benign diseases have few or solitary stone. Despite their finding that multiple and larger stones appear in higher proportion of patients with gallbladder carcinoma, studies consider it is the duration of stone harboring rather than size or number as factor [9,10]. Bile culture for bacteria is positive for 30% of patients undergoing cholecystectomy for gallstone diseases. In turn bacteria found to be more associated with multiple stones and single large stone in one study [11]. Bile culture in our patient showed growth of E. coli and Klebsiella species. Domeyer and Sergentanis in their study found out older patients having multiple and small stones. Solitary stone and younger age were the most prominent predictors of severe inflammation. Multiple stones are associated negatively with the degree of inflammation [12]. In our case there was high degree of inflammation and history of recurrent symptoms but there was a mix of multiple stones counted about 740 stones, size ranging from 0.5 cm to 1.8 cm. Diagnosis is not straight forward as gallstone diseases can mimic a variety of other illnesses. Clinical examination of the patient and laboratory workup supplanted with imaging diagnoses the patient accurately. Abdominal ultrasound is considered as gold-standard diagnostic tool [13,14]. Life style modification to reduce modifiable risk factors and preventive measures reduce the onset and severity of complications. Surgery is the mainstay of management for symptomatic gallstone diseases and in selected conditions of asymptomatic cases. If the gallstone is complicated by infection treatment with antibiotics followed by surgery is mandatory [15-17]. We initiated broad spectrum antibiotics and delayed the surgery for a while to treat the acute condition and in consideration of her previous recurrent symptoms.

## CONCLUSION

Multiple large gallstones are usually found linked with a greater risk of intra and post-

operative complications. Laparoscopic Cholecystectomy is Golden choice of management for both symptomatic and asymptomatic patients. LC seems beneficial for open cholecystectomy and done by a skilled LC surgeon, taking into account the probability by switching to open surgery if the anatomy cannot be exposed and any intraoperative technical problems.

## Declaration by Authors

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