Eighteen Thousand Nine Hundred Seventy Gallstones Removed in Cholecystectomy: A Case Report

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ABSTRACT

Gallstones vary in nature, size, shape, and number. Cholesterol stones are the most common type. Cholelithiasis tend to be asymptomatic. The most common symptom is biliary colic. More serious complications include cholecystitis, choledocholithiasis, cholangitis, and gallstone pancreatitis. Laparoscopic cholecystectomy is the gold standard of treatment.

We describe a case of gallstone disease in a 27 years old male, where about eighteen thousand nine hundred seventy stones were extracted from the gallbladder through laparoscopic cholecystectomy.

Keywords: Multiple gallstones, Cholelithiasis, Laparoscopic cholecystectomy.

INTRODUCTION

Cholelithiasis or gallstone is the presence of hardened deposits of digestive fluid that is formed in the gallbladder¹. Types of gallbladder stones can be classified into cholesterol stones (containing > 50% cholesterol), mixed stones (containing 20-50% cholesterol), and pigment stones (containing < 20% cholesterol)². Eighty five percent of cholelithiasis are cholesterol stones³,⁴. The frequency of cholelithiasis is found to be higher in the female gender and obese patients, sedentary lifestyle and hypertension, as compared to male patients, and the risk of cholelithiasis also increases with age⁵. Cholelithiasis is asymptomatic in many patients. However, in addition to simple symptoms such as nausea, vomiting, and abdominal pain, gallstones can cause serious complications such as cholecystitis, cholangitis, bile duct obstruction, pancreatitis, biliary perforation, biliary fistula, and biliary neoplasity⁶. Laparoscopic cholecystectomy (LC) is one of the most frequently performed surgery. Its popularity stems from its minimally invasive nature, shorter hospital stays, and faster recovery times⁷.

It is very rare to find thousands of gallstones. In the present case we report the
removal of a gallbladder by laparoscopic procedure with thousands of gallstones inside.

CASE REPORT
A 27-year-old man presented to the gastroenterology outpatient clinic with a 2-week history of epigastric pain radiating to the back. Six years ago, he had undergone a sleeve gastrectomy. Abdominal sonography showed a distended gallbladder with numerous tiny echogenic stones and dilated common bile duct (CBD) (Figure 1). The blood investigations revealed elevated liver function tests. Two days later, the MRCP revealed a gallbladder distended with sludge and multiple tiny calculi (largest one measuring 4mm), the CBD is dilated proximally and is narrowed distally. One week prior to admission, an ERCP was done with sphincterotomy and removal of sludge and microlithiasis.

The patient was admitted on the 3rd of April 2024 for elective LC under general anesthesia. About 18970 stones were removed from the excised gallbladder (Figure 2). The procedure took less than one hour while counting the stones took around 4 hours and was carried out by 4 healthcare professionals.

As per the literature review on the number of gallstones recorded via a laparoscopic procedure, we found that our case is among the highest number reported. The postoperative period was uneventful and the patient was discharged from the hospital one day after surgery.

DISCUSSION
Cholelithiasis is the most common cause of acute pain in the right upper quadrant of the abdomen. Acute cholecystitis is a common cause of hospital admission and responsible for approximately 3-10% of all patients with abdominal pain.

The gallstones are mainly classified into 3 groups: cholesterol stones, black pigment stones, and brown pigment stones. Cholesterol stones are the most common variety of gallstones. These stones occur due to the supersaturation of bile with cholesterol. Black pigment stones are usually found in patients with hemolysis and consist primarily of calcium bilirubinate. The brown pigment stones are found in association with bacterial or parasitic infection of the biliary system.

Gallstones’ formation is multifactorial, its major risk factors are female gender, age, obesity, type 2 diabetes, rapid weight loss, physical inactivity, and genetic traits. Gallstone disease is mainly asymptomatic. A longitudinal follow-up study of asymptomatic gallstones, showed that over 20-year period only 18% of patients developed biliary pain. 10% of patients developed symptoms during the first 5 years and 20% by 20 years.

Ultrasound of the abdomen is the gold standard for diagnosing cholelithiasis. The most sensitive finding in acute cholecystitis is the presence of cholelithiasis in
combination with sonographic Murphy sign. Biliary colic typically refers to a steady pain, rather than a series of “colicky” waves. The pain originates in the right upper quadrant or epigastric area and can radiate around to the subcapsular region and will typically last for more than half an hour and less than 6 hours. The patient will often be nauseated and may vomit. Cholelithiasis can cause obstructive jaundice, cholangitis or acute pancreatitis. Since the early 1990s, Laparoscopic cholecystectomy has largely replaced the open technique for cholecystectomies. However, it is associated with higher incidence of complications (i.e bile duct and vasculo-biliary injury) than open cholecystectomy. Male gender, past history of acute cholecystitis, gallbladder wall thickness (≥ 4-5mm), fibrotic gallbladder, and adhesion at Calot’s triangle are significant predictors for difficult LC. The most common complication is iatrogenic perforation of the gallbladder with spilt gallstones with an incidence of 10-30%. The most serious complication, associated with high mortality rate is the injury of common bile duct with an incidence of 0.1-0.6%. The patient in our case had a history of recurrent symptoms, and there were thousands of stones found, and counted about 18970 stones, sizes ranging from 1mm to 4mm. The patient underwent an uneventful operation.

CONCLUSION The relevance of this case report is due to the large number of gallstones (18970) removed from a gallbladder through laparoscopic cholecystectomy. This case is among the highest number of gallstones found.

Declaration by Authors

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