Case Report

Giant gall stone: a rare finding performed with open cholecystectomy

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ABSTRACT

Very few cases of a giant gall stone (>50mm) are reported worldwide. Author reported a case of a gall stone measuring 80x44x41mm in a 64 years old female who underwent open cholecystectomy at our institution. Gall stones measuring more than 30mm are associated with a higher risk of developing gall bladder carcinoma and any patient who is harbouring a large calculus requires cholecystectomy. Large gall stones when detected on abdominal sonography throw a reasonable surgical challenge as on usual basis, laparoscopic cholecystectomy is an ideal approach for intervention in cholelithiasis. Giant gall stones are also associated with a wide spectrum of diseases including Bouveret syndrome, colonic ileus etc. Once a surgery is planned for a giant gall stone, open procedure is better than laparoscopic cholecystectomy as the latter is difficult to perform owing to the large size of calculus and associated adhesions in the region of Calot's triangle. It further saves the patient from unnecessary conversion to open procedure that may occur subsequently in due course of surgery that involves a giant calculus.

Keywords: Giant gall stone, Gall bladder carcinoma, Laparoscopic cholecystectomy, Open cholecystectomy

INTRODUCTION

Northern India has high incidence of cholelithiasis. The prevalence of disease in the region is found to be 6%.¹ The disease is asymptomatic in majority of the population and approximately only 1-2% of asymptomatic patients will require surgery.² There are multiple factors which are responsible for development of gall stones, environment and genetic factors being the most important ones.

Cholecystectomy is the most common procedure done in the operation theatres of this region. Laparoscopic cholecystectomy is the gold standard for surgical management of cholelithiasis.³ But in recent times, innovative techniques of Natural Orifice Transluminal Endoscopic Surgery (NOTES) and Single-Incision Laparoscopic Surgery (SILS) have been applied in gall bladder removal as a step towards even more less invasive procedures.⁴ In view of cutting edge technology

at hands, one rarely thinks of opting for primary open surgery except for standard indications like suspected carcinoma of gall bladder, planned common bile duct exploration, fistulous disease to gastro intestinal tract, penetrating trauma etc.^{5,6} One rather uncommon indication for primary cholecystectomy is a giant gall stone. Gall bladder calculi measuring more than 50mm are a rare finding. Though, a laparoscopic cholecystectomy may appear to be feasible, conversion rates to open procedure are high in a setting of giant gall stones as extraction of large calculi from standard 11mm ports is cumbersome. Moreover, presence of such large calculi subjects the gall bladder wall to repeated inflammation thus distorting the anatomy of Calot's triangle leading to higher probability of conversion to open cholecystectomy. Nevertheless, a person harboring a giant calculus requires surgical intervention as the disease is fraught with many complications which can cause significant morbidity and mortality in longer run.

CASE REPORT

The patient was a 64years old female who presented herself in the outpatient department of this institution with complaints of occasional pain in right upper quadrant and abdominal distention usually after fatty meals for last several years. On examination, the abdomen was soft and there was no organomegaly. Owing to high incidence of cholelithiasis in the region, she was subjected to abdominal ultrasonography.

Figure 1: Specimen of gall bladder and calculus after the surgery.

Figure 2: A) Specimen of gall bladder and the calculus along with longitudinal measurement.

The findings on sonography were suggestive of a solitary calculus measuring 57x39mm in the lumen of gall bladder. The gall bladder wall was normal in thickness and no anomaly was detected in biliary tree. Her hematology reports along with other blood tests including AST, ALT, bilirubin, BUN and creatinine were found to be normal. An open cholecystectomy was performed on the patient subsequently and the findings of abdominal

ultrasound were confirmed. There was diffuse thickening of gall bladder wall with multiple adhesions of the former with common bile duct. With meticulous dissection the surgery was performed without any intra-operative complications. The actual measurements of the gall stone were found to be 80x44x41mm. The patient recovered well in post-operative period and was subsequently discharged from the hospital on ninth post-operative day as she belonged to a remote area of the state and wanted suture removal prior to discharge.

Figure 2: B) Specimen of gall bladder and the calculus along with vertical measurement.

Histopathological examination of gall bladder revealed chronic cholecystitis without any evidence of malignancy. Chemical analysis of the gall stone indicated a mixed type of gall stone containing cholesterol, bilirubin and calcium salts.

DISCUSSION

Gall stone disease is a common entity in Northern India but calculi larger than 5cm are extremely rare. Author reported this case as only a few cases of gall stones larger than 8cm are reported worldwide. To the author's knowledge, only three gall stones larger than this have been reported so far. The largest reported gall stone hitherto was 17x10cm in size which was reported from Chile.⁷ The other two calculi have been reported from Turkey and China measuring 10cm each.^{8,9} Gall stones larger than 30mm are associated with an increased risk of developing malignancy. More than 80% of the patients of gall bladder cancer (GBC) have cholelithiasis and GBC is approximately seven times more common in patients with gall stones than in those without stones.¹⁰ The highest incidence of GBC is among Chileans, American Indians and residents of parts of Northern India, where it accounts for as much as 9 percent of all biliary tract disease.² A large gall stone may also distort anatomy of

Calot's triangle. It leads to increased predisposition of gall bladder wall for thickening and foreshortening of cystic duct, thus making the surgery difficult. It was difficult to perform laparoscopic cholecystectomy on patients with such large gall stones. Risk of conversion to an open procedure depends on surgeon factors, patient factors and possibly equipment factors.¹¹ Other complications associated with giant gall stones are Bouveret syndrome and colonic ileus etc. Therefore, presence of giant gall stone warrants a surgical intervention in form of cholecystectomy, laparoscopic or open, upon diagnosis of the disease.

CONCLUSION

A giant gall stone of size more than 5cm is rare. Owing to a strong relationship of large gall stones with GBC, a person who is diagnosed with such a large calculus requires surgery even if he or she is mildly symptomatic. Though a laparoscopic cholecystectomy can be performed in expert hands, an open cholecystectomy is a safer and convenient modality of intervention in such cases.

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