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GiantGallstone,RareCauseforConversiontoopenCholecystectomyfromLaparoscopic

AlhasanH.Alhebshi*,FerasMHaddad,GalyaGhalibAlsharifandGeorgesAbiZeid

DepartmentofGeneralSurgery,InternationalmedicalCente,Jeddah,SaudiArabia

***Correspondingauthor:**

AlhasanH.Alhebshi,
DepartmentofGeneralSurgery,International medical Cente, Jeddah, Saudi Arabia,
E-mail:abo-hashem@live.co.uk

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1. Abstract

Background: Gallbladderstonesisone of the most common diseaseofthedigestivesystem.Giantgallbladderstoneisrareand subject to technical difficulties in laparoscopic cholecystectomy with high rate of conversion to open cholecystectomy.

Aim: This is to report one case of a giant gallstone treated with open technique after the trials of laparoscopic technique.
Mentioningofsometechnicaldifficultiesasscociatedwithlaparo - scopic approach in large gallbladder stones.

Case report: 42 years old female patient, known case of epilepsy, presented to emergency room with abdominal right upper
quadrantpainthatstartedaftereatingafattymeal,withleucocytosisof23200.Ultrasoundshowedlargeintraluminalstonereaching 8 cm with features of acute calcular cholecytitis. MRCP done revealedalargestonemeasuring7cmby4cm.Patientadmitted as case of acute cholecystitis and consented for laparoscopic pro-
cedurewithpossibleconversiontoopen.Surgerywasconvertedto open cholecystectomy due to technical difficulties. Histopathology
reportshowed7x4cmgallstone.Patienttoleratedwelltheprocedure and was discharged.

Conclusion: Giantgallbladderstonegreaterthan3cmisrare entityandlaparoscopicapproachcanbetriedfirst.Possiblecomplications associated with giant gallbladder stone is not uncom- mon and can be a reasonforconversion toopen cholecystectomy.

2. Introduction

Gallbladder stones is one of the most common disease of the digestive system. It is present in 10 to 15% of adults. Female to male ratio is 3:1 [1,4]. Large gallbladder stones above 3 cm are rareandonlyfewcasereportsdocumented[2].Theprobability

of gallbladder cancer is high with large galblladder stones above3 cm reaching 40% in comparison to only 12% of all subjects in similar age group [3]. Large gallbladder stones may cause biliary colic or acute cholecystitis, also can cause biliary obstruction or even in the gatrointestinal system causing gallstone ileus or even gastric outlet obstruction [2].

3. Case Report

A42 years old female patient, known case of controlled epilepsy, presented to emergency room complaining of severe abdominal pain in the RUQ area with no radiation or associated symptoms worsening after fatty meals. On examination, abdomen was soft with severly tender RUQ, palpable gallbladder and positive Mur- phy sign. Laborotory tests revealed leucocytosis of 23200, AST 13.6,ALP85.8,GGT126.1,Totalbilirubin11.7,directbilirubin 6.8. CRP 62.08, Creatinine 57. Abdominal ultrasound was done (Figure 1) and showed distended gallbladder with large intraluminal stone reaching 8 cm in maximum diameter with features of acute calcular cholecystitis. After diagnosis of acute cholecytitis was made, patient was admitted and started on Tazocin. MRCP was indicated due to high LFT and to check the anatomy pre operatively,whichrevealedlargegallbladderstonemeasuring7cmx 4cm, CBD diameter of 5 mm, common hepatic duct (CHD) 7mm (Figure 2). Patient was consented for laparoscopic cholecystecto- my with possible conversion to open cholecystectomy.At the operation,laparoscopicexplorationshowedmuchdistendedgangrenous gallbladder pending perforation at the fundus, very difficult to grasp. Needle aspiration of the gallbladder was done (50ml of thickbile)anddissectionofsurroundingadhesions(Omentumand duodenum)allowed reaching the infundibulum with difficulty.AnatomicalidentificationofCalottrianglewasdifficultandascritical

viewofsafetywasnotpossible,conversiontoopenthroughariight subcostal Kocher incision. Difficulty of standard approach at the baseofthegallbladderwasencounteredduetothelargehardstone occupying the gallbladder. We opened the fundus, extracted the stone (Figure 3) and continued the dissection antegrade.Acholecystectomywasaccomplishedafteridentificationofallanatomical structures.An abdominal drain was left in the subhepatic region. Patient tolerated well the procedure with no immediate complications.

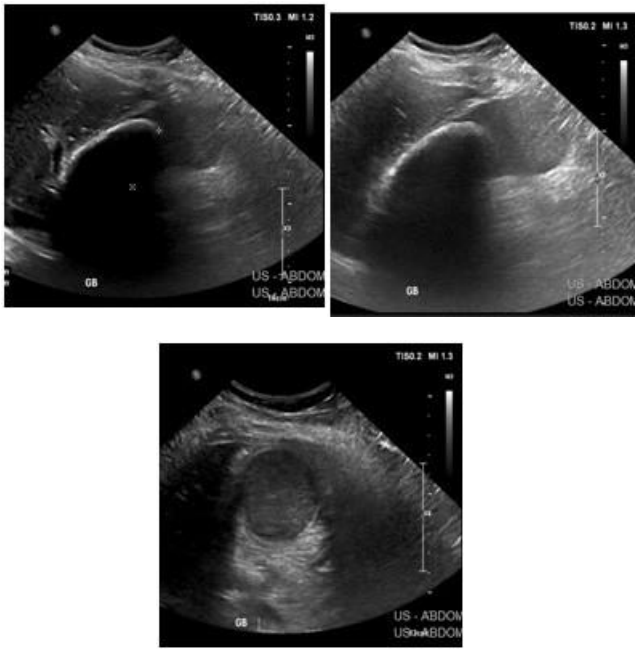

Figure1: UltrasoundImagesofgallbladderstone.

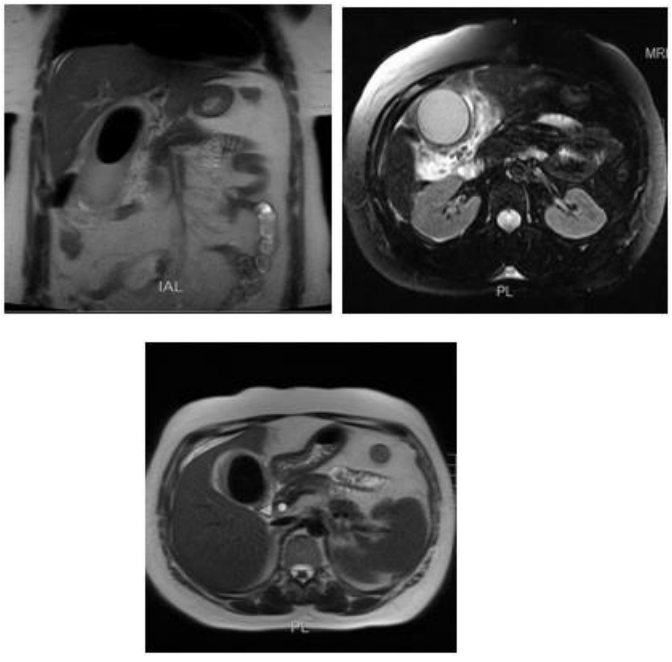

Figure2: MagneticReasonanceCholangiopancreatographyImagesof gallbladder and gallstone.

Figure3:Intraopertivefindings.

Postoperatively,patientdevelopeddiarrheaandfever,abdmonial pain and hemoserous fluid draining. Stool analysis showed Clostridiumdifficle.AntibioticschangedtointravenousMetronidazole and oral Vancomycin. She was discharged after normalization of her labs and subsidence of her diarrhea. Histopathology showed gall bladder measured 9.5 cm x 5 cm and maximum wall thicknessmeasuring0.7cm,stonemeasured7cmx4cm,Microscopic reviewrevealedthickedgallbladderwallwithsuperficialmucosal ulceration and necrosis, acute on top of chronic inflammation, fibrosis and focal regenerative atypia, and no evidence of malignancy.

4. Discussion

We report a case of giant gallbladder stone. Initial trial of laparoscopic cholecystectomy faced technical difficulties and was converted to open approach. Patient tolerated the procedure well. In term of diagnosis of gallbladder stones, ultrasound is the method most often used to identify cholelithiasis and cholecystitis with sensitivityandspecificityof90and95%respectivelyandcande- tect small and large size stones and shows features of acute cholecystitis [5]. MRCPis a non invasive technique that has a role in observingcholedocolithiasispre-operatively,ithasacomparable diagnosing ability with ERCPfor CBD stones [6]. In our case we hadthechancetocomparetheaccuracyofUSandMRCPinmea- suring gallbladder stones in comparison to real gallbladder stone viahistopathologystudies.Weappreciateamoreaccuratesizedeterminationwith MRCPthanUSabdomenwithactualstonesize.

TheindicationsforMRCPinourcasewasduetohighLFTandto check the anatomy pre-operativly (exclude Mirrizi Syndrome & compressiontoCBD).Inregardtothesurgicalapproachtosymptomaticgiantgallstones,laparoscopiccholecystectomyistheman-agement of choice [7], however some authors believe that open cholecystectomyisthemanagementofchoiceduetotheexpected technical difficulties related to the size of the gallstone, including severeinflammationandthickeningofgallbladderwallwhich makesitdifficulttograspthegallbladderwithlaparoscopicinstruments and to identify the anatomy of Calot'striangle. Retrieval of largegallstoneisanothertechnicaldifficultyandcouldbeanother reason for conversion or initial open cholecystectomy [8]. In our casewetriedlaparoscopicapproachinitiallyandfoundsomediffi-cultiessuchasgraspingthegallbladderduetothelargegallstone, unabilitytoidentifyCalot'striangleandthecriticalviewofsaftey which makes the decision to convert to open clear, even in the open technique some difficulties were faced such as reaching the base of the gallbladder in dissection due to the large gallstone. In termsofassociatedmorbidities,Epilepsywasnotmentionedinthe reviewed giant gallbladder stones case reports [8-13]. Our patient was on anti-epileptic medications and whether it can be a contributing factor for gallstone formation is not clear and no strong correlationmade.Ourcasereporthassomelimiationssuchasthe compositionanalysisofthegallstone.Thiswouldhavebeenbeneficialindeterminingtheriskfactorsofthepathophysiology,which willhelpusindeterminingtheetiologyofthegiantgallstones,and whether the composition of the stone has any relation to the size increase of the gallbladder stone.

5. Conclusion

Giant gallbladder stone is a rare entity. Gallstones bigger than 3 cm are very rare and imposes significant challenges in the management techniques surgically, which include inability to identify the anatomy. Open cholecystectomy is a safer alternative to laparoscopic cholecystectomy for giant gallstones.

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