



Longest gallbladder: A case report

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ABSTRACT

INTRODUCTION: A gallbladder mucocele is the distention of the gallbladder by an inappropriate accumulation of mucus. Decreased bile flow, decreased gallbladder motility, and altered absorption of water from the gallbladder lumen are predisposing factors to biliary sludge. However, it is more likely to be a small part of a complex disease process involving inflammation of the gallbladder wall and changes to the lining of the gallbladder changing the consistency of its secretions. We would like to present a case of mucocele gallbladder operated successfully by laparoscopic cholecystectomy.

CASE REPORT: Herein, we present a case of 46 year old female presenting with symptoms of pain in right hypochondrium with ultrasonographic diagnosis of cholelithiasis undergone successful laparoscopic cholecystectomy with Intraoperative findings of: 1. The length of the gallbladder was measured to be 30 cm. 2. A large stone was impacted at the neck of gallbladder, which was leading to mucocele formation.

CONCLUSION: Mucocele of gallbladder present an important hurdle in successful laparoscopic cholecystectomy. A habit of calm and slow dissection with precautions should be developed. Clearance of the calot's triangle with limited use of electro cautery should be done before proceeding towards ligation or clip application to various structures.

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1. Introduction

Laparoscopic cholecystectomy is one of the most commonly performed surgeries in the world. But time-to-time, it poses different challenges while performing this surgery due to various congenital malformations of the gallbladder, bile ducts and vascular supply. Knowledge of anomalies before going for laparoscopic cholecystectomy is essential for safe and successful surgery. These can be dealt with meticulous dissection and appropriate identification of structures before applying clips and cutting structures. One such anomaly is mucocele gallbladder, which is usually non inflammatory and results from outlet obstruction of the gallbladder and is commonly caused by an impacted stone in the neck of the gallbladder or in the cystic duct. Iatrogenic gallbladder perforations and biliary spillage are most common problems encountered in such cases [1]. This can be avoided by limited use of electro cautery and blunt dissection in calot's triangle, as done in our case in which longest gallbladder documented till date was dissected successfully without any complication. This article has been written in line with the SCARE criteria as described by Agha et al. for the SCARE

group. 'The SCARE Statement: Consensus-based surgical case report guidelines. International Journal of Surgery 2016' [2].

2. Patients and methods

We present a case of 46-year-old female presenting with symptoms of pain in right hypochondrium with ultrasonographic findings of calculus of size 10.6 mm seen in gallbladder neck with distended gallbladder. Laparoscopic cholecystectomy was planned. After creating pneumoperitoneum, standard four ports were placed. On inspection of gallbladder findings noted were:

1. The gallbladder was over distended with thick walls and reaching beyond liver margins towards right iliac fossa.
2. A large stone was impacted in the neck of gallbladder.
3. The infundibulum and neck of the gallbladder were buried beneath stomach and transverse colon and were difficult to identify and hold by instruments.
4. The cystic duct was dilated and rotated before joining the common hepatic duct.
5. The whole dissection was performed using suction tip and non-traumatic forceps.
6. The surgery was completed in one hour thirty minutes, using the fundus-first approach. The gallbladder was retrieved from the epigastric port [Fig. 2].

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Fig. 1. Showing the whole length of gallbladder against the plastic ruler (end to end length comes out to be 30 cm).

7. The length of the gallbladder was measured to be 30 cm. The measurement was made in the operation theatre, using a transparent straight ruler with centimeter markings on one-side and inch markings on the other side [Fig. 1].

Patient undergone uneventful laparoscopic cholecystectomy and was allowed oral intake in evening and discharged on next day. Patient followed for 30 days with no significant complaints.

3. Results

From June 2014 to June 2016, 2152 patients underwent laparoscopic cholecystectomy at the General surgery department of SMS Hospital, Jaipur. Out of these, our patient was diagnosed as cholelithiasis and planned for laparoscopic cholecystectomy. After conventional 4-port placement for laparoscopic cholecystectomy, intraoperative findings suggested of mucocele gallbladder with size of 30 cm and calot's triangle was not clearly visible. Many surgeons adapt to this situation by using extra port or by puncturing the gallbladder walls and suctioning out all its contents. In our case, meticulous dissection was done using mariland forceps and suction tip. Cystic artery and duct were clipped and cut separately and gallbladder was removed in Toto without any spillage. The operating time for laparoscopic cholecystectomy was 90 min. There were no intraoperative or post-operative complications. Biopsy was suggestive of chronic cholecystitis.

4. Discussion

Gallstone disease affects 15–20% of the US population, with nearly 1 million new cases reported annually [2]. Mucocele (hydrops) of the gallbladder is a term denoting an over distended gallbladder filled with mucoid or clear and watery content. Long-standing obstruction to the gallbladder's outflow results in over distention of the gallbladder; occasionally, the gallbladder assumes massive proportions, and its volume may reach 1.5 L. The bile or bile pigment is slowly resorbed, and continuing secretion from the mucosa of the gallbladder results in clear and watery or mucoid content (white bile) [3].

The gallbladder wall may be of normal thickness, though in long-standing cases, the mucosa atrophies and the wall becomes thin, sometimes even transparent. Wall thickening can occur with recurrent attacks of cholecystitis. The contents are usually sterile, and any bacterial contamination ends in empyema of the gallbladder [4].

Previous studies show that conversion and morbidity rates were higher when applying laparoscopic approaches to mucocele and empyema of the gallbladder. Cox et al. [5] reported that the conversion rate to OC in LC for empyema of the gallbladder was 83.3%.



Fig. 2. Showing the whole gallbladder after being surgically removed (thinning of gallbladder wall can be appreciated).

In our case, we have shown how a difficult gallbladder can be operated easily by using standard 4 port laparoscopic cholecystectomy. Even such a large gallbladder can be easily dissected and removed from body without any biliary spillage and postoperative complications.

5. Conclusions

Mucocele of gallbladder is a rare complication and has been operated by various techniques like open cholecystectomy, open or laparoscopic subtotal cholecystectomy. Laparoscopic cholecystectomy has been done in some cases after decompressing the gallbladder. In this case, we have performed conventional laparoscopic cholecystectomy with routine port positions without decompressing the gallbladder and with minimal use of energy sources.

We try to establish that laparoscopic cholecystectomy is very much feasible in cases of mucocele and empyema gallbladder, even with higher conversion rates. A surgeon should be well equipped with knowledge of anomalies of gallbladder and meticulous

dissection with good exposure of structures should be done when an anomaly is found.

Patient consent

Written informed consent was obtained from the patients for publication of this case series and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Rahul yadav helped in conception and design of study, analysis and interpretation of data, drafting the article and final approval of the version to be submitted.

Jeevan Kankaria helped in analysis and interpretation of data, revising the article critically for important intellectual content and final approval of the version to be submitted.

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Conflict of interest

The authors report no conflicts of interest.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.ijscr.2017.02.024>.

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