Longest and left-sided gallbladder

**Atul Kumar Mittal, Sourabh Sharma, Selva Kumar Balakrishnan,
Jeevan Kankaria, Rajkamal Jenaw**

ABSTRACT

Introduction: As laparoscopic cholecystectomy is one of the most common procedure done worldwide. Although anomalies are rare but are associated with congenital malformations of gallbladder, bile ducts and vascular system.

Case Report: Herein, we present a case of young 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 25.8 cm. 2. The fundus of the gallbladder was placed to the left of the falciform ligament. The gallbladder then extended to the right of the falciform ligament, reached up to the liver margin before taking a 'U'-turn to lie in the usual gallbladder fossa.

Conclusion: Anomalies of gallbladder present an important hurdle in successful laparoscopic cholecystectomy. Most of time not known preoperatively encountered during surgery. Isolated left-sided gallbladders are rare and found in 0.04–0.3% of cases. When there is question about anatomy of biliary tract intraoperatively one should consider for anomalies. A habit of calm and slow dissection with precautions should be developed. Clearance of the anatomical structures with limited use of electrocautery should be done before proceeding towards ligation or clip applications to structures. 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 found.

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CASE REPORT

OPEN ACCESS

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Keywords: Left-sided gallbladder, Longest gallbladder, Laparoscopic cholecystectomy, Anomaly gallbladder

How to cite this article

Mittal AK, Sharma S, Balakrishnan SK, Kankaria J, Jenaw R. Longest and left-sided gallbladder. International Journal of Case Reports and Images 2014;5(5):373–376.

doi:10.5348/ijcri-201473-CR-10384

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Received: 27 January 2014
Accepted: 18 February 2014
Published: 01 May 2014

INTRODUCTION

As laparoscopic cholecystectomy is one of the most common procedure done worldwide. Although anomalies are rare but are associated with congenital malformations of gallbladder, bile ducts and vascular system. 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.

CASE REPORT

We presents a case of young female presenting with symptoms of pain in right hypochondrium with ultrasonographic diagnosis of cholelithiasis. Laparoscopic cholecystectomy was planned. After creating pneumoperitoneum standart four ports were placed. On inspection of gallbladder findings noted were:

1. The fundus of the gallbladder was placed to the left of the falciform ligament. The gallbladder then extended to the right of the falciform ligament, reached up to the liver margin before taking a 'U'-turn to lie in the usual gallbladder fossa. The infundibulum and neck of the gallbladder were placed in the location of the normal gallbladder. The cystic duct entered the common hepatic duct from the right side, forming the Calot's triangle. The surgery was completed laparoscopically in four hours, using the fundus-first approach (Figure 1). The gallbladder was retrieved from the epigastric port (Figures 2 and 3).
2. The length of the gallbladder was measured to be 25.8 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. Microscopy showed normal histology of the gallbladder (Figure 4).

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.

DISCUSSION

Anomalies of gallbladder presents an important hurdle in successful laparoscopic cholecystectomy. Most of time not known preoperatively encountered during surgery. A prenatal study done by Bronshtein et al. 1993 on 10,016 fetal examinations after the 14th week of gestation reported 17 cases of anomalous gallbladder a 0.15% incidence of gallbladder malformations [1]. As per study of 500 subjects by Carbajo et al. Congenital gallbladder malformations were diagnosed in 1% of the cases, all cases were intraoperatively diagnosed and only two patient have to be converted to open cholecystectomy [2]. Isolated left-sided gallbladders are rare and found in 0.04%-0.3% of cases [3]. Two possible embryological etiologies for left-sided gallbladder are suggested.

1. Gallbladder is attached to the left lobe and migrates in front of common duct to come in left side in which case the cystic duct is in a normal anatomic position.
2. Gallbladder is entirely formed from bud from the left side in which case the cystic duct joins the CBD or left hepatic duct from the left side [4, 5].

Figure 1: Gallbladder body, after crossing below the falciform ligament to its right, continues along the inferior liver surface.

Figure 2: Gallbladder length measured to be 25.8 centimeters using a straight transparent scale with centimeter markings on one side and inch markings on the other.

As in our case gallbladder was of 25.8 cm which is largest as certified by Guinness book of world record with association of anomalous location of fundus of gallbladder to left side. Dr Naeem Taj operated a case at CDA hospital

Figure 3: Gallbladder specimen cut open to reveal multiple gallstones.

Figure 4: Sections show normal histology of the gallbladder.

Islamabad, Pakistan, Rasheeda Bibi, 70-year-old female with a 25.5 cm long gallbladder.

When there is a question about anatomy of biliary tract intraoperatively one should consider for anomalies. There are four types of aberrant gallbladder: (1) intrahepatic, (2) left-sided, (3) transverse, and (4) retrodisplaced illustrated. The aberrant gallbladder produced false positive liver scans which were correctly

diagnosed by hepatic angiography [6]. A habit of calm and slow dissection with precautions should be developed. Clearance of the anatomical structures with limited use of electrocautery should be done before proceeding towards ligation or clip applications to structures. An intraoperative cholangiography can be used to further delineate details of anatomy [7]. If surgeons' experience allow, one can proceed with laparoscopic surgery. Fundus first approach can make access easy in tricky situations. If surgeon is not experienced enough, conversion to open procedure should be done.

CONCLUSION

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 found. The importance of identifying the gallbladder at hepatic angiography by observing the cystic arteries in arterial phase and the gallbladder wall stain in hepatogram phase is stressed.

Author Contributions

Atul Kumar Mittal – Conception and design, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Sourabh Sharma – Conception and design, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Selva Kumar Balakrishnan – Conception and design, Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Jeevan Kankaria – Conception and design, Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Rajkamal Jenaw – Conception and design, Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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