Laparoscopic Cholecystectomy in a Case of Epigastric Gall Bladder

Aswini Kumar Misro · Radhika Mishra · M. L. Shrestha

Received: 19 May 2009 / Accepted: 30 March 2010 / Published online: 26 July 2012
© Association of Surgeons of India 2012

Introduction

Midline or epigastric location is highly uncommon for gall bladder. In such cases laparoscopic cholecystectomy cannot be performed by the standard port placement. However with the modification mentioned below it can be accomplished without difficulty.

Case Report

A 50 year old male patient presented with symptoms of epigastric discomfort, nausea and heartburn of more than a year duration. On sonographic examination, multiple stones were detected in the gallbladder. However, the position of the gallbladder was not reported. The CBD, liver and other abdominal organs were reported to be in their usual position. Chest x-ray didn't reveal any abnormality. In view of the symptomatic cholelithiasis, decision was taken to operate (Laparoscopic Cholecystectomy). Intra operatively, a distended gallbladder was found in the epigastric region, just to the right of falciform ligament. The right and left lobe of liver, stomach and other abdominal organs were normal in their position and appearance. CBD was located slightly medially as compared to normal but the appearance, dimension and the course was unremarkable.

Due to the anomalous position of the gall bladder, there was no space between the Epigastric port and Gall

Bladder to perform the Calot's triangle dissection (Fig. 1). The instrument passed through the epigastric port was in line with the gall bladder. Although this could grasp and retract the Hartman's pouch but performing the Calot's triangle dissection was almost impossible due to improper angle. Hence it was concluded that it is not feasible to continue the surgery deploying the standard 4 port American technique. Hence, the port and surgical team member positioning was changed to the way mentioned below.

The surgeon stood on the left side of the patient facing the laparoscopic system cart and monitor where as the first assistant and the camera operator occupied the right and left side of the surgeon respectively (Fig. 2). The first port (optical) had already inserted in the umbilical region so was the second port in the epigastric region. As a deviation from the standard practice, the third and fourth ports were introduced in left mid-clavicular line and left anterior axillary line one centimeter below the costal margin respectively. Second port was used for Hartmann's pouch retraction, whereas the third port was used for Calot's triangle dissection. The fourth port was used for fundus retraction as usual (Fig. 3). Although the maneuvering and overall experience of this procedure was different due to the change in port positioning and gall bladder alignment, the principles and steps remained essentially same as conventional laparoscopic cholecystectomy. After applying suitable retraction, the face of the Calot's Triangle was opened and its dissection was carried out.

After the Calot's triangle dissection, cystic duct and cystic artery were circumferentially skeletonized. After application of double clip on body side and single clip on specimen side, both the structures were cut. The rest of the procedure could be accomplished similar to the

A. K. Misro (✉) · R. Mishra · M. L. Shrestha
Department of Surgery,
Lumbini Medical College & Research Centre,
Pravas,
Tansen, Palpa, Nepal
e-mail: draswini@gmail.com

Fig. 1 A case of Epigastric Gall Bladder located just below the falciform ligament and there is no space between the Epigastric port and Gall Bladder to perform the Calot's triangle dissection

Fig. 2 Surgical team position during laparoscopic cholecystectomy in a case of Epigastric Gall Bladder

conventional technique. Patient recovered uneventfully in the post operative period and was discharged on the 2nd post-operative day.

Discussion

Midline or epigastric gallbladder is very uncommon. Few cases have been reported in normal subjects [1] and also in patients with hepatic inversion and heterotaxy syndrome [2]. When such a case is encountered, situs inversus should be carefully ruled out firstly, by intra operative visualization of the peritoneal cavity and its contents and secondly, by chest x-ray. With the change in the port positioning as mentioned above, this surgical procedure can be accomplished safely.

Fig. 3 Port positioning for laparoscopic cholecystectomy in a case of Epigastric Gall Bladder

Fig. 4 Anatomical changes in case of Epigastric Gall Bladder. Note the Quadrangle Lobe is occupying negligible surface area externally. 1=CBD, 2=Common hepatic duct, 3=Cystic duct, 4=Falciform ligament, 5=Normal position of gall bladder, 6=Quadrangle lobe, 7=Left lobe, 8=Right lobe of liver, 9=Caudate lobe, 10=Epigastric gall bladder

The Anatomical Changes in Epigastric Gall Bladder

In a normal case, the gall bladder remains in the lateral border of the Quadrangle lobe and its axis (an imaginary line drawn from Fundus to Hartman's pouch) moves in postero-medial direction. In contrast, epigastric gall-bladder lies more or less in the plane formed by Porta Hepatis and Falciform Ligament and its axis is more vertical compared to normal counter-part. This obscures the Calot's Triangle making it inaccessible for dissection from any port in the right half of the body and midline. Due to the close proximity between the gall bladder and falciform ligament, the quadrangle lobe of liver occupies negligible area externally (Fig. 4).

References

1. Pradeep VM, Ramachandran K, Sasidharan K (2005) Anomalous position of the gallbladder: ultrasonographic and scintigraphic demonstration in four cases. *J Clin Ultrasound* 20(9):593–597

2. Hopper KD (1988) Hepatic inversion with an epigastric gallbladder. *Abdom Imag* 13(1):355–357
3. Jindal V, Misra MC, Bansal VK, Choudhury N, Garg SK, Khan RN, Krishna A, Panwar R, Rewari V (2010) Technical challenges in laparoscopic cholecystectomy in situs inversus. *J Laparoendosc Adv Surg Tech A*
4. Romano GG, Grande G, Romano F, Di Luna G, Musto LA, Saldutti L (2009) Laparoscopic cholecystectomy in situs viscerum inversus totalis: technical note. *G Chir* 30(8–9):369–73
5. Pataki I, Soultan TG, Chanis W (2010) Laparoscopic cholecystectomy in totalis situs inversus for cholecystitis. *Magy Seb* 63(1):23–5