A 41-year-old Saudi male with situs inversus totalis and peptic ulcer presented to the emergency room with 4-day history of pain in the left upper abdominal quadrant. The pain was colicky in nature, radiating to the back and this condition was aggravated by fatty meals. Physical examination showed positive Murphy’s sign in the left hypochondrium. Ultrasound showed the location of gallbladder on the left side of the body with a 13 mm stone impacted in its neck and signs of acute cholecystitis. Chest X-ray showed dextrocardia [Figure 1]. Laparoscopic cholecystectomy was performed on the following day. The patient made an uneventful recovery and was discharged home on the consecutive day. CT scan shows the transposition of the major abdominal organs [Figure 2].

Figure 1: Chest X-ray showing dextrocardia
Technique

The patient was placed in the supine position with both the surgeon and camera-man on his right side and the assistant on the left side. There was one monitor that was placed near the head of the patient at the left side. A 5 mm laparoscope was introduced through an umbilical incision. A 10 mm trocar was introduced in the subxiphoid area in the mid-line, passing to the left side. Two 5 mm trocars were introduced in the left mid-clavicular and left anterior axillary lines. A grasper was introduced through the anterior axillary cannula to hold the fundus of the gallbladder and it was pushed laterally to the cephalic position. Another grasper was introduced through the medial cannula for the holding Hartmann’s pouch and for manipulating it. This was initially held by the right hand of the surgeon. A dissector was introduced through the subxiphoid cannula and was manipulated by the left hand of the surgeon. This procedure proved to be difficult for a right-handed surgeon. The surgeon frequently changed his hands to grasp the dissector with his right hand, while the assistant held the Hartmann’s pouch grasper or moved the dissector to the medial cannula and he used it with his right hand while holding the Hartmann’s pouch grasper through the subxiphoid cannula with his left hand. Most of the Calot dissection as well as the application of the clips to both cystic artery and duct was performed through the subxiphoid port. The operation took nearly 2 h and was completed successfully.

DISCUSSION

Situs inversus totalis is an extremely rare condition and performing successful laparoscopic cholecystectomy in these patients is even rarer. In July 2006, Bedioui reported the 13th case in the world. In the extensive search performed using MEDLINE, including the non-English language literature, only 20 cases were identified.[3] None of these cases were from Saudi Arabia. In our case, both the surgeons are right-handed and therefore the technique has to be adjusted. It is much easier for a left-handed surgeon to perform laparoscopic cholecystectomy in such patients.[4,5] Dissection from the mid-clavicular cannula with right hand with the lateral displacement of the neck of the gallbladder using the left hand through the subxiphoid cannula is difficult because the tip of the dissector will lose its perpendicular angle to the dissection plane and become positioned with a very narrow angle.[6] We performed the dissection alternatively from both cannulae. The dissection was quite safe and this confirms the previous reports of safe laparoscopic cholecystectomy in situs inversus totalis.[7,8]

REFERENCES

1. Moreli SH, Young L, Reid B, Ruttenberg H, Bamshad MJ. Clinical analysis of families with heart, midline and laterality defects. Am J Med Genet 2001;101:388-92.
2. Song JY, Rana N, Rottman CA. Laparoscopic appendicectomy in a female patient with situs inversus: Case report and literature review. JSLS 2004;8:175-7.
3. Bediou H, Chebbi F, Ayadi S, Makni A, Fteriche F, Ksantini R, et al. Laparoscopic cholecystectomy in a patient with situs inversus. Ann Chir 2006;131:398-400.
4. Oms LM, Badia JM. Laparoscopic Cholecystectomy in situs inversus totalis: The importance of being left-handed. Surg Endosc 2003;17:1859-61.
5. Drover JW, Nguyen KT, Pacie RF. Laparoscopic cholecystectomy in patient with situs inversus viscerum: A case report. Can J Surg 1992;35:65-6.
6. Nursal T, Baykal A, Iret D, Aran O. Laparoscopic cholecystectomy in a patient with situs inversus totalis. J Laparoendosc Adv Surg Tech A 2001;11:239-41.
7. Al-Jumaily M, Hoche F. Laparoscopic cholecystectomy in situs inversus totalis: Is it safe? J Laparoendosc Adv Surg Tech A 2001;11:229-31.
8. McKay D, Blake G. Laparoscopic cholecystectomy in situs inversus totalis: A case report. BMC Surg 2005;5:5.

Source of Support: Nil. Conflict of Interest: None declared.