

Laparoscopic cholecystectomy and intraoperative cholangiography in a patient with situs inversus totalis

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ABSTRACT

Situs inversus totalis (SIT) is a congenital autosomal recessive abnormality in which the visceral organs are transposed in a mirror-image position from the normal location. Laparoscopic surgery must be performed with different patient positioning and trocar placement. Presently described is the approach used on a patient with this rare condition. A 39-year-old female with no other known disease but SIT was referred to the emergency department with symptoms of biliary colic. Cholestatic and liver enzymes were elevated, but the white blood cell count was normal. Magnetic resonance cholangiopancreatography was performed but yielded no additional finding. A month later, a laparoscopic cholecystectomy was performed. The patient was placed in the supine position. The operating room layout, trocar placement, and patient positioning were adapted for the circumstances, and small modifications were made to the surgery technique. With these adjustments, a cholecystectomy can be performed as safely in a patient with SIT as in those with normal anatomy. Intraoperative cholangiography was also performed. Cholecystectomy was completed without complication. Although SIT is rare, it should be considered attentively. The surgeon must work outside the normal routine since the anatomy must be considered differently. As seen in this case report, surgery can be completed without any problem with the proper approach and planning.

Keywords: Cholelithiasis; gallstones; laparoscopy; situs inversus totalis.

Introduction

Situs Inversus Totalis (SIT) is a congenital autosomal recessive disease which is seen mostly in males and described as reversing and mirroring of the major visceral organs and organ systems symmetrically instead of their normal positions.^[1] The condition is found in about 0.01% of the population.^[2] Because of differentiation of patient positioning and trocar placement, laparoscopic surgery must be performed differently in these special group than routine patients.^[3]

Case Report

Our patient is 39 years old female who has no other known diseases but SIT. Referred to emergency surgery department with left upper quadrant pain and vomiting symptoms. Tenderness was positive in physical examination in the symmetric point of Murphy's sign. Ultrasonographic findings on gallbladder wall, that were enlargement, thickening and there was a 18 mm stone in the gallbladder. Liver enzymes and cholestatic enzymes were slightly elevated but white blood cell count was normal. Patient



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underwent Magnetic Resonance Cholangiopancreatography (MRCP) and no additional finding was demonstrated in. She was hospitalized with these findings, treated medically and after all the parameters became normal, she was discharged from hospital. After a month, she has been prepared for elective operation and laparoscopic cholecystectomy performed. In the first postoperative day, the patient was discharged with recommendations, no complications were seen.

Technique

Supine position was the preferred. Operating room layout and trocar placement was designed as the mirroring of classical four-trocar positioning;^[4] surgeon placed at the right, first assistant was at the left, scrub nurse was at the

foot side, and monitor was at the left through the head side of the patient (Fig. 1a, b). Patient positioned slightly to reverse Trendelenburg and deviated to the right. The right handed surgeon should adapted left hand dominance for this case. Even mirroring of four-trocar technique and using the seconder hand as dominant hand is considered to be uncomfortable for the surgeon but in several minutes, surgeons brain is adapting the situation and cholecystectomy can be performed as classical choleystectomy safety and feeling for the surgeon. During operation, ductus cysticus (D.cysticus) and Arteria Cystica (A. Cystica) is dissected and D.Cyticus was seen dilated (Fig. 2a, b). Perioperative cholangiography performed to patient and bile ducts were examined due to D.Cysticus dilation, elevation of liver enzymes in the first emergency admittance and the risk of any bile duct anomaly orig-

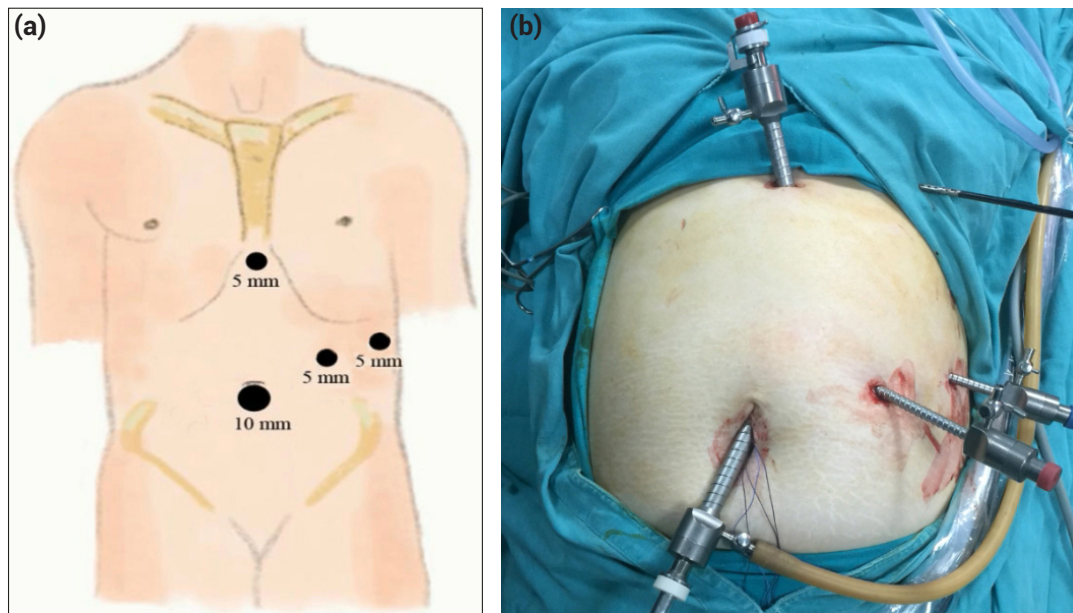


Figure 1. (a, b) Trocar placement.

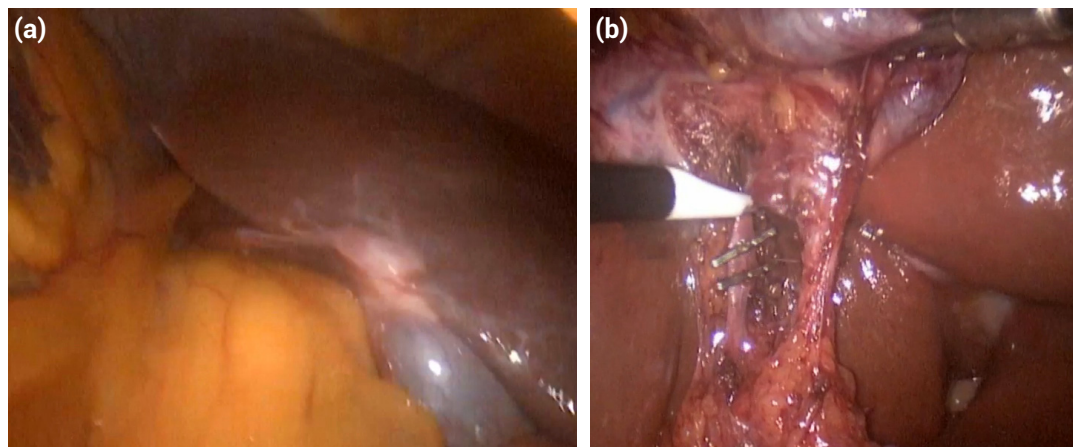


Figure 2. (a, b) Explorative view and dissection of callot triangle.

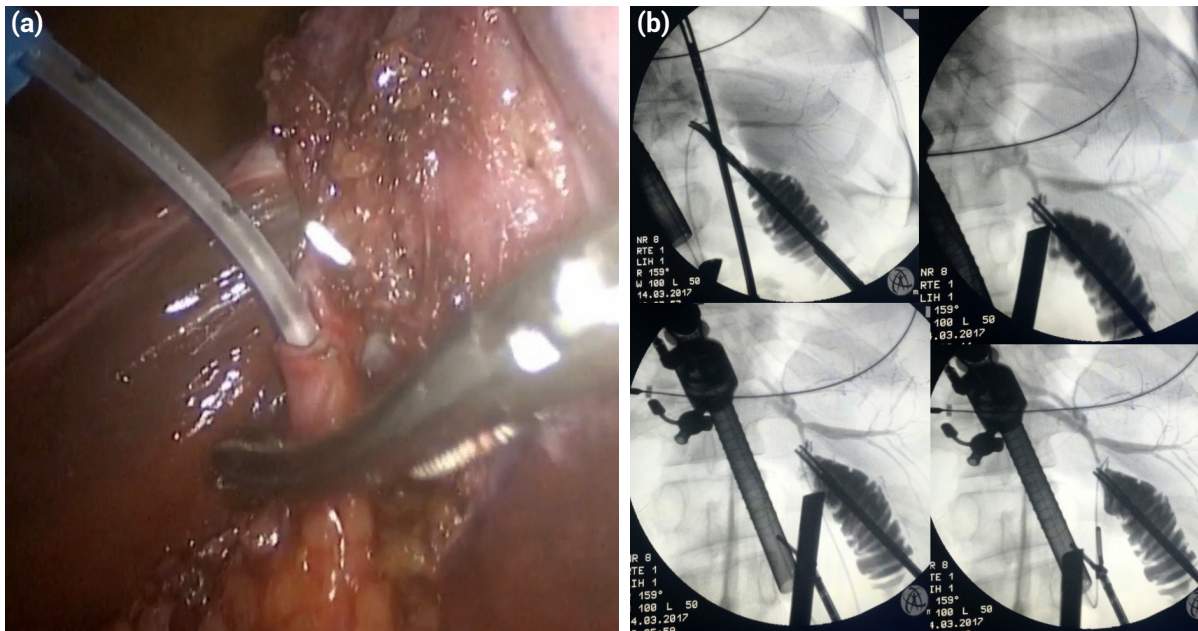


Figure 3. (a, b) Perioperative cholangiography.

inated from SIT^[5] (Fig. 3a, b). No additional anomaly or pathology and leakage has been seen in cholangiography. After ligation of D.Cysticus and A.Cystica, gallbladder was dissected from liver bed and a closed suction drain was placed in Winslow. Cholecystectomy finished without any intraoperative complications.

Discussion

Although SIT is rare, it is important that the surgeon must work in contradistinction to the normal routine of surgical plan in patients who require operation, because of the anatomy should be considered differently than the normal one.^[1] As seen in our case report, surgery can be completed without any problem with proper approach and planning.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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