



Case Report

MANAGEMENT OF CBD STONE IN SITUS INVEERSUS TOTALIS: A CASE REPORT

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Abstract

Situs inversus totalis is a rare congenital condition present in approximately 0.01% of the population in which the major visceral organs are reversed from their normal position and can pose difficulties in the diagnosis and management of abdominal pathology. Symptomatic cholelithiasis is very common and laparoscopic cholecystectomy is the gold standard treatment at present. Laparoscopic surgery in a situation of situs inversus is challenging due to the mirror-image anatomy. Diagnostic pitfalls and technical details of the laparoscopic cholecystectomy are discussed.

Key words: Situs inversus totalis, Laparoscopic cholecystectomy, choledocholithiasis.

Introduction

Situs inversus totalis also called situs transverses or oppositus is a rare autosomal recessive genetic condition in which the major visceral organs are reversed from their normal position. Situs inversus viscerum has been observed in animals since the time of Aristotle.¹ The first known human case of dextrocardia has been reported by Fabricius in 1600.² More than a century later Matthew Ballie described the complete mirror-image reversal of the thoracic and abdominal organs in situs inversus. Situs inversus is present in approximately 1 in 5000 to 20000 live births and it accounts for 0.01% of the population.³

The normal development requires a 270 degree counter clockwise rotation yielding to normal anatomy but in situs inversus totalis the 270 degree rotation is in the clockwise direction.⁴ The transposition of the

organs maybe associated with other congenital anomalies, such as renal dysplasia, biliary atresia, congenital heart disease, or pancreatic fibrosis. Situs inversus totalis associated with bronchitis, chronic sinusitis, and deficient tracheobronchial cilia is known as the Kartagener's syndrome.^{2,5}

Since the introduction of the technique of laparoscopic cholecystectomy in 1987, the first known report on laparoscopic cholecystectomy in a patient with situs inversus totalis is in 1991 by Campos and Sipes.⁵ The laparoscopic treatment may have technical difficulties and need for modifications in operative technique because of the mirror-image anatomy.

Case Report

A 17 year old, unmarried female was admitted in a

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tertiary care hospital of Dhaka city with the complaints of lump in the right buttock since childhood and difficulty in sitting and defecation for the last four months. She received surgical treatment for the lump at the age of seven but couldn't provide documentations of the treatment. Following the operation the lump decreased but didn't disappear completely and again started to increase after a few years. Now for the last four months she has problems sitting and defecation, but there was no tenesmus or passage of blood per rectum. On inspection the left gluteal region was normal, but there was a lump on the inner aspect of the right side, oval in shape, 12x8 cm in size with no overlying skin change and cough

Case Report

A 45-year old, non diabetic, normotensive lady presented with complaints of intermittent colicky pain in the left hypochondrium for four months. The pain was non-radiating and often associated with an increased body temperature. She gave history of yellow discoloration of skin and sclera about four months back that subside after taking conservative treatment. Her uncle died from cholangio carcinoma.

General examination of the patient was normal, with no evidence of jaundice. Vital signs were within normal limit. The abdomen was soft with no palpable mass with mild tenderness in the left hypochondrium. Upper border of dullness at left 5th intercostal space. Apex beat was felt on right site, audible first and second heart sounds, mostly in the right-sided chest.

On laboratory workup, she was found to have WBC of 7000, hemoglobin of 11.8 gm/dl, platelet count of 471×10^9 , and a mildly elevated alkaline phosphatase with a normal bilirubin level (.8 mg/dl). SGPT was normal limit and HBsAg was negative. Chest X-ray revealed dextrocardia (Fig 1).



Fig 1: Dextrocardia

Ultrasound abdomen showed situs inversus. The gallbladder was collapsed and contained multiple stone. The common bile duct was not dilated.

With the diagnosis of symptomatic cholelithiasis, elective laparoscopic cholecystectomy was planned.

Technique

The approach in the operating room required modification with the surgeon and the 1st assistant positioned on the right side of the patient and the 2nd assistant, scrub nurse on the left side. A head-end-up and left-side-up positioning of the patient was adopted to optimize views of the gall bladder and the Calot's triangle. The monitor was placed at the head-end of the patient on left side.

With all aseptic precaution under G/A patient in supine position umbilical 10mm port was created. Gallbladder identified in left side (Fig 2). Then epigastric port [5mm], left hypochondriac port [5mm] and left lumbar port [10mm] port were made under direct vision. After retracting the fundus Common bile duct appears to be dilated and CBD was packed with stone which could be felt with forceps. so converted to be open choledocholithotomy.

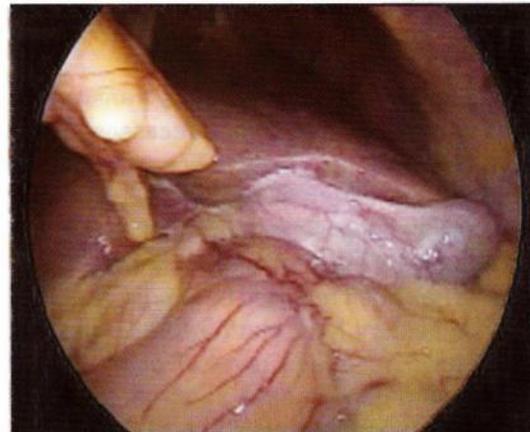


Fig: 2 Gall bladder is on the left side.



Fig: 3 Dilated CBD packed with stone.

Left subcostal incision was made. Cholecystectomy was done. CBD was explored. Multiple Stones were extracted from CBD. T-tube and drain tube were kept in situ, wound closed in layers. Her post recovery was uneventful. T-tube clamping started from 8th post-op day and removed on 11th post-op day. She was discharged on 11th post-op day.

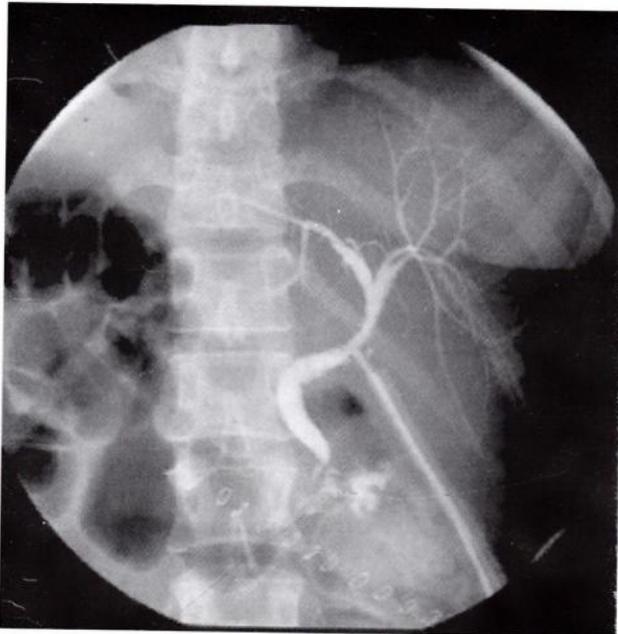


Fig 4: Post-operative T-tube cholangiogram showing biliary channel in on left site.

Discussion

There are several important aspects in the management of gallstones in patients with situs inversus that are worth highlighting. It would be much easier for a left-handed surgeon to perform laparoscopic cholecystectomy in such patients.^{1,6} Patients with situs inversus who are scheduled for laparoscopic cholecystectomy should be assessed pre-operatively for any associated potentially serious cardiac or respiratory abnormalities. As the mirror-imaged orientation while operating on a left sided gall bladder requires mental

adaptability and manual dexterity to cope with any evolving difficulties or potentially dangerous intraoperative situations, laparoscopic cholecystectomy in patients with situs inversus should be performed by an experienced laparoscopic surgeon.⁷

Conclusion

Surgery in patients suffering from situs inversus is a challenging issue. Therefore, it should be performed by an expert surgeon.

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