

## CASE REPORT

### LAPAROSCOPIC CHOLECYSTECTOMY FOR CHOLELITHIASIS IN SITUS INVERSUS TOTALIS - A CASE REPORT

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## ABSTRACT

Situs inversus is an uncommon congenital abnormality with mirror-image viscera. Diagnosing and treating cholelithiasis in these patients is difficult. These instances need a modified laparoscopic cholecystectomy. A 45-year-old guy with Situs Inversus and Cholelithiasis was discovered on ultrasonography abdomen. Laparoscopic cholecystectomy went well. In individuals with cholelithiasis, changes in SIT might delay identification and treatment by altering the location of symptoms. It is safe to do laparoscopic cholecystectomy on these people. However, it is a technically difficult process that often necessitates adjustments to the approach.

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## INTRODUCTION

Situs inversus totalis (SIT) is an extremely uncommon congenital anatomical condition that involves the viscera being transposed in a mirror image. In patients who have SIT, difficulty in diagnosing the condition might be caused by underlying anatomical variations.<sup>1, 2</sup> The incidence rate is expected

to range anywhere from 1 in 5000 to 20,000 live births per year.<sup>3</sup> Even though this abnormality has been recognised since ancient times, physicians who are now in practise do not have much expertise dealing with it.<sup>4</sup> Early in development, laterality is established, and any failure in that process might lead to a broad array of diseases that

could be partial or total.<sup>4</sup> The presence of SIT does not increase the risk of developing gallstones due to anatomical reasons; nonetheless, the treatment may be challenging and technical.<sup>5,6</sup>

Laparoscopic cholecystectomy is a widely performed surgical procedure that is considered the preferred surgical approach for treating cholelithiasis.<sup>7,8</sup> In addition, surgical operations are generally becoming less intrusive as a result of patient and surgeon preferences for decreased trauma and better aesthetic results attributed to minimised incisions. This choice for reduced trauma and improved cosmetic outcomes is related to the fact that surgical procedures are becoming less invasive.<sup>9</sup> This study presents a case of cholelithiasis in a patient with situs inversus totalis, necessitating laparoscopic cholecystectomy. We assess the feasibility of this procedure and evaluate the surgical techniques described in the medical literature.

## **MATERIALS AND METHODS**

The patient's medical history and details were collected during an information gathering session, and his permission was obtained before any of the material was made public. A man who was 45 years old and had no history of chronic medical conditions went to

the outpatient section of the hospital complaining of pain in his epigastric region and left hypochondrium for three months. This discomfort was accompanied by bouts of nausea and vomiting that were made worse by fatty foods. The patient had no other symptoms that were related with his condition. He went to the hospital quite a few times, and while there, he was treated with antacids and analgesics, which provided just a little alleviation in his symptoms. The clinical examination revealed no abnormalities, such as jaundice or abdominal pain, and was otherwise ordinary. The patient was scheduled to have a cholecystectomy through laparoscopic cholecystectomy as a matter of choice. Depending on the patient's condition, the configuration of the operating room's equipment was changed. The patient was positioned such that the monitor was on his left side. The surgeon and the camera assistant were positioned on the patient's right side, while the first assistant was positioned on the patient's left side. The aseptic procedure consisted of scrubbing and draping the abdominal region.

## **RESULTS**

A 45-year-old man had normal liver, kidney, and blood counts. Dextrocardia was seen on the chest X-ray (Fig. 1). Abdominal

ultrasonography (Fig. 3) showed transposition of few solid organs with left sided gallbladder and liver full of sludge and a huge 11 (mm) stone impacted in the neck of the gallbladder. The wall is normal thickness with no pericholecystic fluid. The open pneumoperitoneum was established with the first infraumbilical 10 (mm) trocar. Second 10 (mm) trocars were placed at the xiphisternum for the surgeon's left hand, and two 5 (mm) trocars were placed at the left midclavicular line 2 (cm) below the costal margin as a working port for the surgeon's right hand and at the left anterior axillary line 5 (cm) from the costal margin for the second assistant to retract the gallbladder fundus. The liver and gallbladder were on the left

side, indicating Situs Inversus Totalis. Calot's triangle was found. After incising the peritoneum over the gallbladder infundibulum, the cystic duct and artery were located and dissected to achieve the crucial view (Fig. 4). The right hand was used to double-clip and separate the cystic duct and artery via the subcostal port. The gallbladder was removed from its peritoneal attachments via the epigastric port. Laparoscopic cholecystectomy took 60 minutes, longer than usual. The patient was released on day 1 after a smooth recovery. Chronic cholecystitis was verified by gallbladder pathology. Outpatient follow-up revealed no surgical problems.



Fig-1: CXR

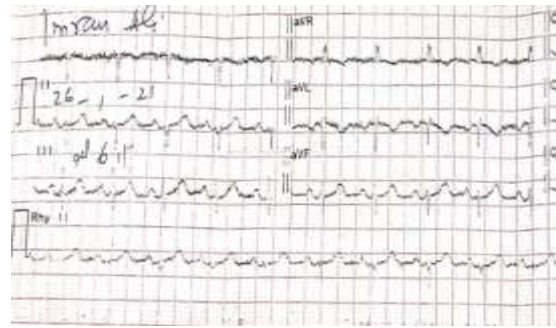


Fig-2: ECG



Fig3: USG Abdomen



Fig-4: Critical View



Fig-5: Clip Applied On Cystic Duct



Fig-6: Gall Bladder Fossa



Fig- 7: wounds showing ports position

## DISCUSSION

In this report, we describe a 45-year-old guy who presented with characteristic SIT symptoms. One case study included a 20-year-old woman who complained of left upper abdominal discomfort and dyspepsia for five days. Constant and dull hurting in nature, increased by fatty meals, helped by analgesics and antacids; originating in the left hypochondrium with radiation to the left shoulder.<sup>5</sup> According to another research, a chest X-ray revealed dextrocardia in a 36-

year-old woman with chronic cholecystitis and numerous gallstones. Cholecystitis, cholelithiasis, and situs inversus were all seen on the MRI. Our modified approach, which largely included a left-handed operation and adjusting the port placements, was effectively used to accomplish a laparoscopic cholecystectomy.<sup>3</sup> The patient in another research was a 40-year-old man who had been experiencing epigastric and left upper quadrant discomfort on and off for a month.

The existence of cholelithiasis with SIT was established by clinical evaluation and imaging studies. The patient's elective laparoscopic cholecystectomy went well, and he recovered without incident. Due to the underlying anatomical variance, many surgical modifications have been performed to address the technical problems faced.<sup>1</sup>

Many strategies have been advocated for overcoming these challenges, and he recovered normally after his cholecystectomy with no complications. Because of the inherent anatomical variance, several intraoperative adjustments have been made to address the technical challenges that have arisen. However, one study came to the same conclusion we did; Laparoscopic cholecystectomy is feasible and advisable for patients with situs inversus totalis, provided that the procedure is conducted by a skilled

laparoscopic surgeon. Changes in the anatomical disposition of an organ not only affect the localization of symptoms and signs related to the organ's disease, but also present specific challenges for the diagnosis and surgical abilities of the surgeon.<sup>8</sup>

This means that it is not contraindicated in SIT and may be performed without worry. However, it is technically difficult because of the underlying shift in anatomy, which necessitates cautious dissection of the biliary system to prevent iatrogenic harm.

## CONCLUSION

In individuals with cholelithiasis, changes in SIT might delay identification and treatment by altering the location of symptoms. It is safe to do laparoscopic cholecystectomy on these people. However, it is a technically difficult process that often necessitates adjustments to the approach.

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