

LAPAROSCOPIC CHOLECYSTECTOMY IN SITUS VISCERUM INVERSUS TOTALIS

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We present a case of successful management of a leukemic patient with situs viscerum inversus totalis and symptomatic gallbladder. Gallbladder disease in this type of anomaly may present a diagnostic problem. There has been a total of eight patients reported in the literature since 1991. This case, to our knowledge, is the first to be reported from Saudi Arabia.

Case Report

A 45-year-old female Saudi with a known diagnosis of situs viscerum inversus and chronic myeloid leukemia, for which she had completed her chemotherapy course, presented to the medical services with recurrent attack of left upper quadrant abdominal pain and vomiting, with no history of jaundice. All her hematological and biochemical profiles were reported to be normal. Her radiological investigations confirmed situs viscerum inversus totalis with thick-walled gallbladder, containing multiple stones and normal caliber common bile duct (CBD). After clearly defining the anatomy of the biliary tract by operative cholangiogram and careful dissection, cholecystectomy was carried out as a mirror image of the usual laparoscopic cholecystectomy done for the right side of the gallbladder (Figure 1). Intraoperative cholangiogram showed filling defects in the distal part of CBD (Figure 2). An endoscopic retrograde cholangiopancreatography (ERCP) performed in the immediate postoperative period showed no stones, but histopathology confirmed the diagnosis of chronic cholecystitis.

Discussion

Situs viscerum inversus is a rare embryologic anomaly in which there is a mirror image transposition of normal anatomy of organs, with almost the same incidence of variant anatomy.¹⁻⁴ The cause of the transposition is unknown, but it is claimed to be due to a genetic



FIGURE 1. Trocar placement for laparoscopic cholecystectomy, a & d=10 mm ports, b & c=5 mm ports.

predisposition, with an autosomal recessive transmission. Associated anomalies are known to be quite frequent. The incidence of this anomaly is variable, ranging from 1 in 5000 to 1 in 20,000.¹

Since first performed by Mouret in France in 1987, laparoscopic cholecystectomy has rapidly evolved as the standard therapeutic modality for gallstone disease, after it was refined and popularized in the United States by Reddick and Olsen.¹ Drover et al. reported the first case to have laparoscopic cholecystectomy with this type of anomaly.⁵ Although the intrahepatic and extrahepatic biliary anatomy are mirror images of normal, there is a higher likelihood of associated anomalies, which might add an additional challenge to performing a laparoscopic procedure. There is a strong argument in favor of operative cholangiography in this type of case. Conversion to an open technique has to be considered if the surgeon is not

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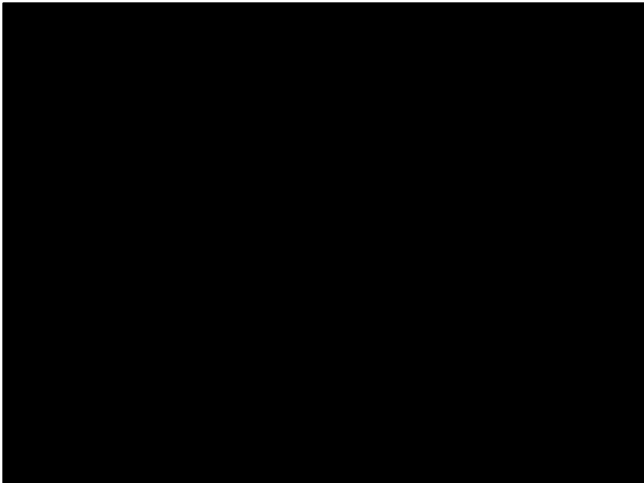


FIGURE 2. Intraoperative laparoscopic cholangiogram showing filling defect in distal part of CBD (arrow).

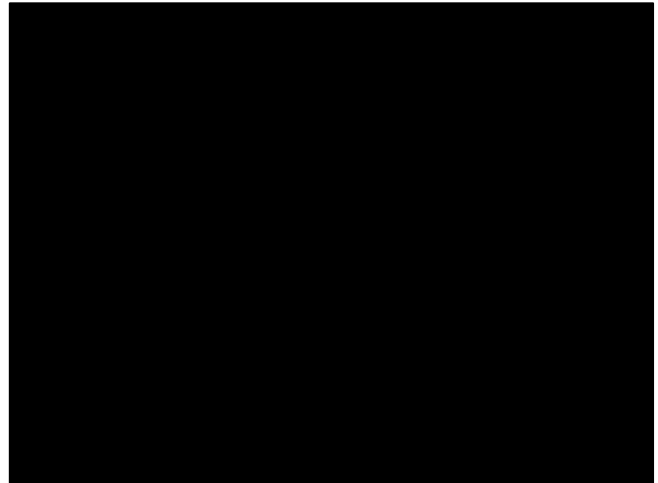


FIGURE 3. Postoperative ERCP, showing left-sided biliary tree with no filling defects in CBD (short arrow), and pancreatic duct to the right (long arrow).

fully at ease carrying out the procedure laparoscopically.^{6,7} Situs viscerum inversus totalis is a good example of the need to identify and confirm biliary anatomy during the procedure prior to clamping or cutting any biliary structures.²

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