Laparoscopic cholecystectomy for gallstone pancreatitis in a patient with situs inversus totalis

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Abstract

We present the case of a 53-year-old lady with acute gallstone pancreatitis and situs inversus totalis, who underwent emergency laparoscopic cholecystectomy. We describe our operative approach for this challenging anatomy and discuss the advantages our particular technique confers with reference to the current literature.

INTRODUCTION

A 53-year-old lady, of Nigerian ethnicity, presented to our hospital acutely with constant epigastric pain and colicky left upper quadrant pain. Her past medical history included situs inversus totalis and hypothyroidism. Venous blood tests revealed an amylase of 1388 IU/l, normal liver function tests and normal inflammatory markers. Ultrasound scanning demonstrated a single large calculus within the gallbladder, with no evidence of cholecystitis. The common bile duct was of normal caliber. A diagnosis of gallstone pancreatitis was made (Glasgow score 0). As per our particular local protocol, a decision was taken to proceed to an emergency cholecystectomy during the same admission, using a laparoscopic approach.

CASE REPORT

The patient was positioned in Lloyd-Davies, with the right-handed operating surgeon standing between the legs for optimum comfort. The assistant stood on the patient’s right and the laparoscopic stack was placed on the patient’s left side. A Veress needle technique was used for insufflation, as the patient was morbidly obese (body mass index of 41). A 5 mm 30° laparoscope and 4-port technique was used. The primary operator used a 5 mm supra-umbilical port and a 5 mm left sub-costal port to accommodate a retractor and diathermy hook, respectively. The assistant used a 5 mm sub-xiphisternal port to accommodate a retractor and a 10 mm left mid-clavicular line port to operate the camera (Fig. 1). The gallbladder was distended and thick-walled (Fig. 2). Calot’s triangle was clearly identified, with two branches of the cystic artery found. Both of these were clipped, as well as the cystic duct (Fig. 3). The gallbladder was removed in a bag after diathermy extraction off the liver bed, through the 10 mm port. The operative time was 60 min.

DISCUSSION

Situs inversus totalis is a congenital condition involving complete transposition of the organs from their anatomically normal positions to the opposite side of the body. Dextrocardia was first recognized by Marco Severino in 1643, and then, more than 100 years later, Matthew Baillie, a British physician and pathologist, first described situs inversus totalis. It has a global prevalence of 0.01%. The first case report of laparoscopic cholecystectomy in total situs inversus was published in 1991 by Campos and Sipes, who advocated a mirror-image setup for a patient in a supine position [1]. Since then, over 80 other reports have been published discussing the safety of a laparoscopic approach to cholecystectomy in cases of situs inversus totalis. A number of approaches, including the use of a left-handed surgeon or single-
incision laparoscopy, have been advocated to avoid the need for a right-handed surgeon to cross hands, with the patient placed in the supine position [2–4]. The use of the Lloyd-Davies position, however, as we describe here, allows much more ergonomic flexibility without the need for personnel or equipment the operating facility may not have. In general, the Lloyd-Davies position may be preferred for laparoscopic cholecystectomy as it allows the operating surgeon to stand between the patient’s legs and therefore involves less twisting to the upper back and more space for operating without encountering the assistant. The advantages of its use are accentuated in the situation of situs inversus, as the potential for uncomfortable movements is increased for a right-handed surgeon. A 5 mm 30° laparoscope is optimal, as it allows for movement of the laparoscope to any of the ports as the gallbladder is mobilized and the ideal viewing position changes (Fig. 1). It should be noted that the use of a left-handed surgeon does not negate risk, as they will still be performing an unfamiliar procedure with an associated learning curve. Vascular anomalies of the celiac trunk and liver are thought to be more common in patients with situs inversus and we noted an additional cystic artery branch in our dissection [5]. Two case reports have also noted an aberrant cystic artery structure [6] [7]. Awareness of the increased potential for vascular anomalies, combined with meticulous dissection, is therefore essential.

Laparoscopic cholecystectomy can be safely carried out in patients with situs inversus totalis by a number of different methods. The techniques we describe here allow comfortable, rapid removal of the gallbladder no matter the handedness of the surgeon or resources of the operating facility.

CONFLICT OF INTEREST STATEMENT
None declared.

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