

Right Hepatic Artery 'Caterpillar Hump' and Short Cystic Artery in Laparoscopic Cholecystectomy- A Case Report

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ABSTRACT

Keywords: Biliary Variation; Caterpillar Hump Artery; Laparoscopy

Introduction

Patients with symptomatic cholelithiasis have come to rely on minimally invasive cholecystectomy as the gold standard technique in the past three decades. Laparoscopic surgery offers good visualisation of the operating area, reduced wound discomfort, improved cosmesis, and early return to daily activities. Still, it also increases the risk of iatrogenic biliary damage and arterial bleeding.

Case Report

A 50-year-old man with an unremarkable medical history had an elective laparoscopic cholecystectomy for cholelithiasis-related symptoms. Previously, in the last year, the patient experienced 2 attacks of biliary colic, which were relieved by spasm-analgesics. In order to establish a diagnosis, an ultrasound examination was performed, which revealed: a gall bladder with a 5 mm thickened wall, and multiple calculi of different dimensions. The laboratory was normal with no positive inflammatory markers. Cholecystectomy was suggested. A four-port technique was performed. Initial exploration

of the lodge of the gall bladder was done, where we notice an inflammatory situation with multiple adhesions from the omentum, colon and gaster. We deliberated on the adhesions and we approached Calot's triangle by upward traction of the fundus and lateral retraction of Hartmann's pouch, but clear visualisation of the main structures wasn't possible. Next, we did a suction of the content in the gall bladder and we noticed empyema was coming out. Additionally, we extracted the calculi and we get infundibulum mobility. After performing a dissection of the peritoneum medially at the level of the infundibulum, usually, two tubular structures entering the gallbladder are identified. However, in order to obtain a «critical view of safety,» the dissection was continued by opening up the lateral aspect of the peritoneum; the hepatobiliary triangle was dissected free of areolar tissue; and the bottom of the gallbladder was dissected off the lower part of the liver bed. At this point, an anatomical variation became apparent: the right hepatic artery formed a «caterpillar-like» loop inside Calot's triangle, and a short cystic artery reached the gallbladder. Recent research indicates that among clinically significant variations, short (<1 cm) cystic arteries occur in 9.5% of surgical or anatomical cases, and

multiple cystic arteries occur in 8.9%. A tortuous right hepatic artery ('caterpillar hump') is a rare but potentially dangerous variation, particularly when associated with short cystic arteries or variable vascular architecture, because of its location deep in Calot's triangle and likely termination in the cystic plate.

Conclusion

In the presented case, a 'critical view of safety' dissection and ligation near the gallbladder prevented accidental division of the right hepatic artery and haemorrhage. The cholecystectomy was subsequently performed without incident, and the postoperative course was unremarkable.

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