

Caterpillar hump of right hepatic artery during laparoscopic cholecystectomy

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Introduction

The common hepatic artery arises from the coeliac trunk and divides into gastroduodenal artery and proper hepatic artery. Proper hepatic artery divides into right and left hepatic arteries. The RHA gives cystic artery on the way to the right lobe of the liver[1].

Single loop caterpillar hump RHA leads to short cystic artery which could lead to both accidental avulsion of cystic artery and right hepatic artery division instead of the cystic artery[2].

During laparoscopic cholecystectomy, identification and achieving critical view of safety is essential to prevent vascular injury.

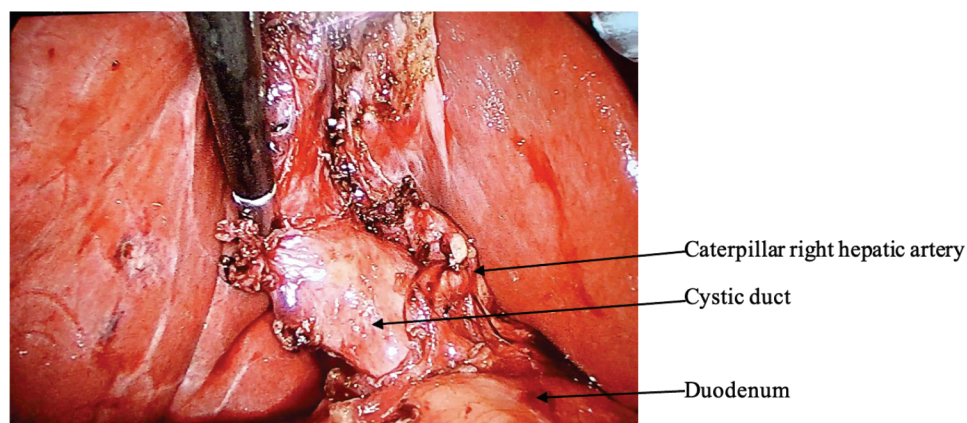


Figure 1. Intra-operative view of the Calot's triangle showing caterpillar right hepatic artery passing anterior to the cystic duct

Anatomical variations in and around the hepato-cystic triangle are common (20-50%)[2]. The variations in RHA origin and course and branching pattern are well documented[1]. But tortuous RHA running upward and downward course producing a hump is a less common but dangerous anomaly[3]. This sinuosity of the RHA is called caterpillar hump or Moynihan's hump.

The overall incidence of surgical patients with caterpillar hump of RHA is 7%[2]. In 40% of caterpillar hump RHAs pass anterior to the cystic duct and 60% pass posterior to the cystic duct[2]. Of all of the caterpillar hump RHAs 55% are single loops and 45% are found to be having double loop configurations[2].

The surgeon should have a clear understanding of variations of the vasculature of the hepatocystic triangle. It is essential to prevent fatal complications such as intraoperative bleeding and ischaemic necrosis of the liver.

In this case, single loop caterpillar hump RHA which passed anterior to the cystic duct was able to successfully dissect and preserve. Prompt identification of cystic artery and division done.

Reference

1. S P, Bharath C v, P B, V N. A study on variations in origin and course of right hepatic artery. *International Journal of Anatomy and Research*. 2020;8(1.1):7207-7211. doi:10.16965/ijar.2019.340
2. Marano L, Bartoli A, Polom K, Bellochi R, Spaziani A, Castagnoli G. The unwanted third wheel in the Calot's triangle: Incidence and surgical significance of caterpillar

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hump of right hepatic artery with a systematic review of the literature. *Journal of Minimal Access Surgery*. 2019;15(3):185. doi:10.4103/jmas.JMAS_75_18

3. Kavitha Kamath B. An anatomical study of Moynihan's hump of right hepatic artery and its surgical importance. *J Anat Soc India*. 2016; 65 : S 6 5 - S 6 7 . doi:10.1016/j.jasi.2016.04.004