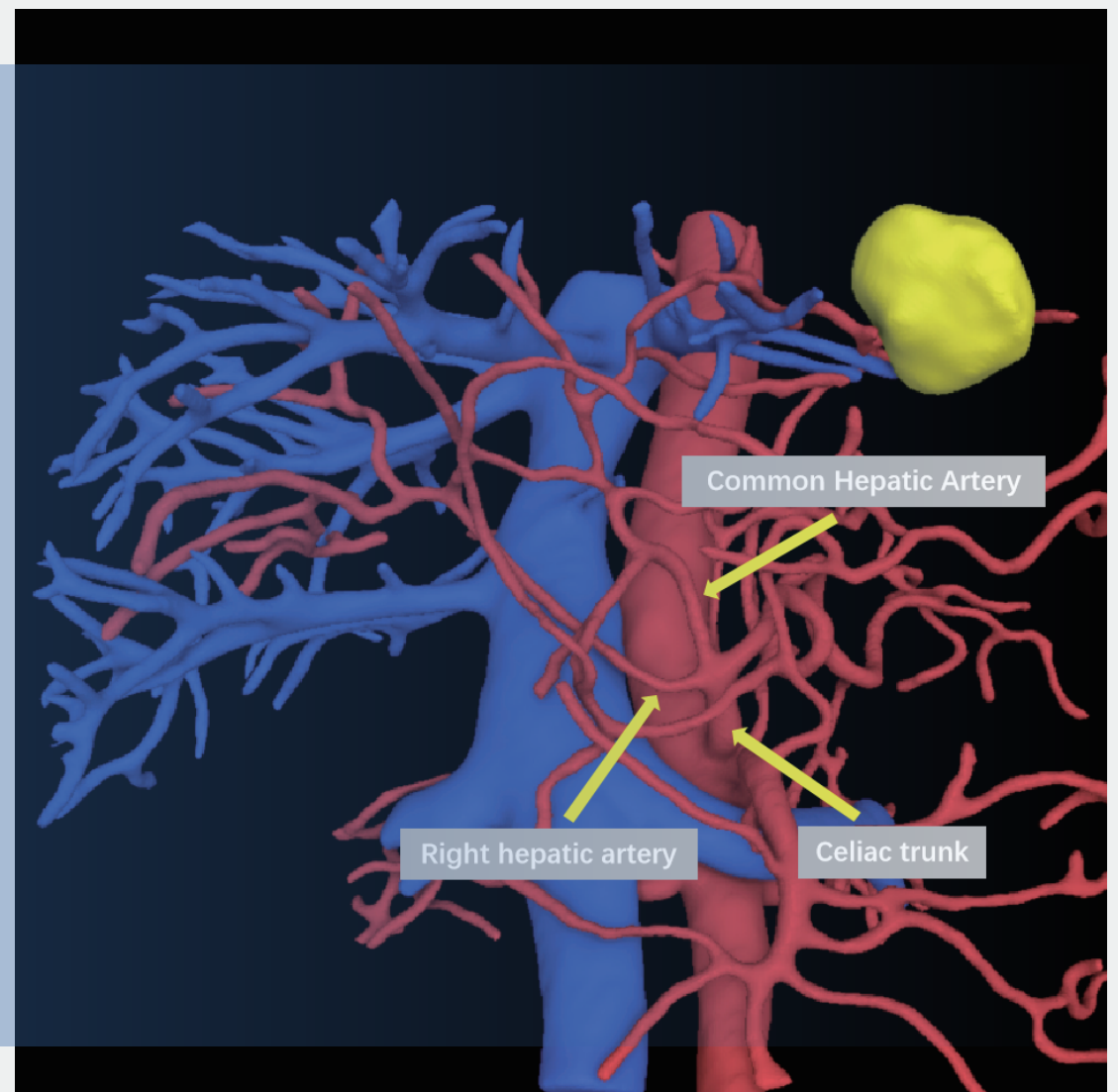




Hepatobiliary Surgery Case I

**Variant Right Hepatic Artery
(arising from the celiac
trunk) and Variant Right
Posterior Branch of the
Portal Vein (arch-shaped)**

In this case, the patient presents with a variant right hepatic artery, specifically with the right hepatic artery originating from the celiac trunk. Within the branches of the proper hepatic artery, the right hepatic artery is absent. Consequently, the arterial supply to the right hemiliver derives directly from the coeliac trunk. The implications for surgery are as follows:



■ For right hemihepatectomy:

- The right hepatic artery needs to be ligated and transected. In this patient, it is not possible to sever the right hepatic artery at the usual anatomical landmark at the hepatic hilum, and it must be individually identified and divided.

■ For biliary-related surgeries:

- The right hepatic artery lies to the right of the bile duct (normally it lies on the left). When dissecting Calot's triangle, caution is needed in identifying the location of the cystic artery ligation to avoid injury to the right hepatic artery.

- During bile duct dissection, the relationship between the right hepatic artery and the bile duct must be carefully considered, to prevent arterial injury during separation.

■ For pancreaticoduodenectomy:

- Due to variant branching of the celiac trunk, careful intraoperative identification of each branch of the celiac trunk is required to avoid accidental division of critical vessels.

This patient also exhibits a variant of the right posterior branch of the portal vein, specifically an arch-shaped variation. Multiple branches arise from the arch-shaped vessel, but the typical right posterior branch is absent, and there are no portal vein branches to liver segments VI and VII. The surgical implications include:



■ For partial hepatectomy:

- It is difficult to identify the portal vein branches of segments VI and VII.
- This variation complicates anatomical segmentation and resection of segments VI and VII, making the definition of the appropriate resection plane for segmental hepatectomy particularly challenging.



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