

### **Ultrasound-Guided Liver Resection of a Tumor Involving the Hepatocaval Confluence**

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#### **Abstract**

We present the case of a 72-year-old patient with multiple cardiovascular comorbidities, hospitalized in our center for a liver tumor, impossible to biopsy percutaneously. CT examination detected a tumor formation with radiological features of cholangiocarcinoma, located in the upper part of segment I, extending to segments VII, VIII, IV superior and II, invading the right and middle hepatic vein, adherent to the left hepatic vein and to the retrohepatic inferior vena cava. Worth mentioning is the existence of 2 accessory lower right hepatic veins, which allowed us to perform a superior transverse non-anatomical ultrasound resection of the upper I, VII, VIII, IV and II segments, which also involved the right and middle hepatic veins, preserving the left hepatic vein, by detaching the tumor from it, but also from the retrohepatic inferior vena cava. Although the literature still debates the R1 vascular resection for cholangiocarcinoma, we decided to adopt this approach on the hepatic veins. Of note, we consider this policy not applicable for the portal pedicles. By adopting this strategy, the venous drainage of the remaining left hemiliver was ensured by the hepatic vein, and of the right one by the accessory veins. Although resecting tumors located at the hepato-caval confluence involving all hepatic veins is technically difficult, we consider it feasible especially when intraoperative ultrasound is used.

**Key words:** liver resection, ultrasound guidance, tumor involving the hepatocaval confluence, upper transversal hepatectomy, intrahepatic cholangiocarcinoma