PTFE Graft as a “Bridge” to Communicating Veins Maturation in the Treatment of an Intrahepatic Cholangiocarcinoma Involving the 3 Hepatic Veins. The Minor-*but*-Complex Liver Resection

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ABSTRACT

Background. Parenchyma-sparing liver surgery allows resecting hepatic veins (HV) at the hepatocaval confluence with minor (<3 adjacent segments) liver resections. PTFE graft can be used as a bridge to communicating-veins maturation to ensure the correct outflow of the spared liver. We present a video of an intrahepatic cholangiocarcinoma (IC) involving the three HV at the hepatocaval confluence treated with this approach.

Methods. In a 50-year old obese (BMI 44.8) male a 6-cm IC involving the hepatocaval confluence was identified during the follow-up for a kidney malignancy. At the preoperative CT scan the left HV was not detectable, the middle HV was incorporated within the tumor, and right HV had a 3-cm contact with the tumor. No communicating veins were evident at preoperative imaging.

Results. After a J-shape thoracophrenolaparotomy, the resection of segments II–III–IVa was partially extended to

segment VIII–VII and I. The right HV was detached from the tumor, and the middle HV was reconstructed with a 7-mm ringed-armed PTFE graft anastomosed to V8. Surgery lasted 20 h and 55 min with an estimated blood loss of 3500 ml, but the postoperative course was uneventful and the patient was discharged on the 14th postoperative day. One month later the CT scan showed a patent PTFE graft with the maturation of communicating-veins. One year later a complete thrombosis of the PTFE graft was observed with normal liver perfusion and function, and the patient was disease-free.

Conclusions. PTFE-based parenchyma-sparing liver resection is a new tool to treat tumors located at the hepatocaval confluence exploiting the maturation of intrahepatic communicating-veins between main HV.

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