

Middle Hepatic Vein Roadmap for a Safe Laparoscopic Right Hepatectomy

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ABSTRACT

Background. When performing a right hepatectomy, the middle hepatic vein (MHV) should guide the parenchymal transection. MHV hotspots for bleeding can be anticipated when applying the previously developed MHV Roadmap to a minimally invasive approach.¹ This video demonstrates application of the MHV Roadmap to perform a safe laparoscopic right hepatectomy.

Patient. A 44-year-old woman with a solitary and large breast cancer liver metastasis in the right liver was considered for a laparoscopic right hepatectomy following an excellent response to neoadjuvant chemotherapy. The MHV anatomy was reconstructed using automated vascular reconstruction software (Synapse, Fuji) ahead of surgery.

Technique. With the patient in the French position, the hilar vessels are exposed and the inflow is controlled. Parenchymal transection begins along the demarcation line.^{2,3} The constant relationship between the portal bifurcation and the V5 ventral and dorsal allows for easy intraparenchymal identification of the MHV. The parenchymal transection is performed in a convex fashion

to optimize exposure of the MHV. Using MHV guidance, the parenchymal transection is continued and V8 is safely identified. The operation is completed with division of the anterior fissure and right hepatic vein.

Conclusion. Outlining the MHV anatomy according to the MHV Roadmap preoperatively helps to anticipate hotspots of bleeding. Guidance along the MHV through the parenchymal transection allows for early identification of tributaries, thereby preventing injury and remnant liver ischemia.

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