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ORIGINAL ARTICLE – HEPATOBILIARY TUMORS

Liver Resection with In Situ Hypothermic Perfusion: An Old but Effective Method

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ABSTRACT

Background. More than 40 years ago, patients with tumors infiltrating the confluence of the hepatic veins were deemed unresectable; however, in situ hypothermic perfusion, first described by Fortner et al. (Ann Surg 180(4):644–652, 1974), allowed resection of these tumors. In order to prevent liver ischemia after total vascular exclusion, the liver was flushed with a cooled organ preservation solution. The surgeon was able to resect the tumor and reconstruct the hepatic veins with occlusion of the hepatic inflow and outflow.

Methods. A 55-year-old female suffering from a leiomyosarcoma of the inferior vena cava (IVC) presented to our clinic. Three years ago, the IVC was replaced with a synthetic graft. During the patient's follow-up, a computed tomography (CT) scan revealed three hepatic metastases of the sarcoma. A central metastasis in Segment 8 infiltrated the right hepatic vein (RHV), and two additional metastases were located in the left lateral segments. We used Fortner's technique to resect these tumors.

Results. The postoperative course of the patient was prolonged due to a hematoma that partially compressed the new RHV graft. A re-laparotomy was performed and drains were placed. On the 15th postoperative day, the patient was discharged in good health.

Conclusions. Although nowadays patients with these unfortunate tumor locations can, to some extent, be managed non-operatively, surgery remains an option with a chance of cure. Azoulay et al. (Ann Surg 262(1):93–104, 2015) were able to show satisfactory 5-year-survival in 77 patients (30.4%), however 90-day mortality was high (19.5%). Therefore, patients need to be selected carefully. In the era of minimally invasive liver surgery, these old techniques should not vanish from the armamentarium of liver surgeons.

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