Extended Right Hepatectomy and Inferior Vena Cava Graft Replacement for En Bloc Resection of Hepatocellular Carcinoma with Cavo-Hepatic Venous Confluence Invasion

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ABSTRACT

Background. Hepatocellular carcinoma (HCC) associated with tumor extension in the portal vein, hepatic vein, or inferior vena cava (IVC) is traditionally considered an advanced stage of disease to which palliative radiotherapy or sorafenib chemotherapy is proposed.^{1,2} Recent studies have shown a significant survival benefit in patients treated with R0 liver resection.^{3–5}

Methods. We describe the case of a 45-year-old female patient presenting with a voluminous HCC developed in a non-cirrhotic liver with a tumor thrombus obstructing the retrohepatic IVC and the middle hepatic vein termination. Initial treatment included two cycles of selective internal radiation therapy with Yttrium 90 and sorafenib treatment for 1 year. Re-evaluation revealed a significant reduction of the tumor and compensative hypertrophy of the left liver lobe, enabling surgical resection.

Results. The procedure included anatomic right hepatic trisectionectomy with caudate lobectomy and retrohepatic IVC graft replacement. Total liver vascular exclusion with intrapericardial IVC control enabled en bloc R0 resection of the tumor and the floating tumor thrombus in the cavo-hepatic venous confluence. Total liver vascular exclusion duration was 20 min, for a total warm liver ischemia of

40 min. The duration of the operation was 240 min and blood loss was 700 mL. The patient was discharged on postoperative day 15 and was free of disease 6 months post-surgery.

Conclusion. Liver surgery with complex vascular resections for HCC with major vascular invasion should be considered a valid therapeutic option in high-volume hepatobiliary centers.

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Electronic supplementary material The online version of this article (<https://doi.org/10.1245/s10434-018-6665-5>) contains supplementary material, which is available to authorized users.

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First Received: 12 February 2018;

Published Online: 11 September 2018

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