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Title : Extended right hepatectomy with vena cava replacement for alveolar echinococcosis (with video)

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TEXT:

Albeit benign, hepatic alveolar echinococcosis (HAE) is a rare parasitic disease but potentially life-threatening condition. Owing to its infiltrative-growing pattern along intrahepatic structures, end-stage HAE often requires complex extended hepatectomy with biliary and vascular reconstructions. While *ex vivo* liver resection with autotransplantation is widely reported in Asian endemic regions, such a systematic approach remains debated (1). In the setting of centrally located tumors involving the retrohepatic vena cava and/or the hepatocaval confluence ante situm liver resection under total liver vascular

exclusion (TVE) represents an approach avoiding vascular and biliary morbidity due to reimplantation of the liver after ex vivo surgery (2,3). This video shows a 27-year old female who presented with an acute Budd-Chiari syndrome due to a large HAE lesion involving all the 3 hepatic veins. After medical management of the Budd-Chiari syndrome and antihelminthic drug albendazole for 2 years, a major liver resection was scheduled. Upon preoperative imaging, extended right trisectionectomy with vena cava replacement under TVE was anticipated. Future liver remnant (FLR) volume was 900cc, accounting for 53% of the total functional liver volume. Because the underlying non tumoral liver parenchyma was normal and FLR volume exceeded 35% , preoperative portal vein embolization was not required. After ruling out intraperitoneal disease spreading, full mobilization of the liver and the vena cava required both diaphragmatic opening owing to hepatocaval confluence and diaphragmatic involvement. This maneuver allowed exposing the pericardium (Figure 1). Both the infrahepatic suprarenal and the supradiaphragmatic extrapericardic vena cava were slung. Next, the hepatic pedicle was fully dissected and the right lobe in-flow was cut. Parenchymotomy was then conducted as far as possible along the right side of the umbilical fissure (Figure 2) until reaching the hepatocaval confluence close to the left hepatic vein to reduce TVE duration. At this point, TVE was applied before infra- and suprahepatic vena cava section allowing ante-situm exteriorization of the liver that remained connected by the hepatic pedicle (Figure 3). Because TVE was hemodynamically tolerated and anticipated to last less than 60 minutes, ante situm liver resection was performed without venovenous bypass nor hypothermic perfusion. The left hepatic vein was then isolated and cut with safe margins. Caval flow was then reconstructed using a ringed polytetrafluoroethylene graft after end-to-side reimplantation of the left hepatic vein (Figure 4). Operative time was 470 minutes with TVE duration of 48 minutes. Estimated blood loss was 1300 ml. After uneventful postoperative course, the patient was discharged on postoperative day 15 and remains free of disease after 18 months. This video shows different steps necessary to perform this surgical procedure and will be useful for all surgeons performing major hepatic resections.

References

1. Beldi G, Vuitton D, Lachenmayer A, Heyd B, Dufour J-F, Richou C, et al. Is ex vivo liver resection and autotransplantation a valid alternative treatment for end-stage hepatic alveolar echinococcosis in Europe? *J Hepatol* 2019; 70(5):1030-1.
2. Hannoun L, Panis Y, Ballardur P, Delva E, Honiger J, Levy E, et al. Ex-situ in-vivo liver surgery. *Lancet* 1991; 337(8757):1616-7.
3. Oldhafer F, Ringe KI, Timrott K, Kleine M, Beetz O, Ramackers W, et al. Modified ante situm liver resection without use of cold perfusion nor venovenous bypass for treatment of hepatic lesions infiltrating the hepatocaval confluence. *Langenbecks Arch Surg* 2018; 403(3):379-86.







