

Long-term Patency Of All-in-one Sleeve Outflow Vein Venoplasty In Living Donor Liver Transplantation Using A Right Liver Graft

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Background : Graft outflow vein reconstruction is the most important procedure for successful implantation of a right liver graft (RLG) in living donor liver transplantation (LDLT). All-in-one sleeve venoplasty (ASV) can unify the right hepatic vein (RHV), short hepatic vein (SHV), and middle hepatic vein (MHV) of an RLG. ASV enables wide side-to-side anastomosis to the recipient inferior vena cava (IVC).

Methods : Of 2,875 patients who underwent LDLT with an RLG from August 2009 to July 2019, 16 (0.5%) patients underwent ASV. The ASV techniques applied to these patients, as well as patient long-term outcomes, were analyzed.

Results : Type 1 ASV unified one RHV, one IRHV, and one MHV conduit (n = 12 [75.0%]). Type 2 ASV unified one RHV, multiple IRHVs, and one MHV conduit (n = 4 [25.0%]). All patients are currently alive with a mean follow-up period of 70.1 ± 41.9 months. No patient underwent retransplantation. Follow-up computed tomography showed SHV occlusion in one (6.3%) patient at 4 months, resulting in 1-, 3-, and 5-year SHV patency rates of 93.8% each. MHV occlusion was identified in six (37.5%) patients, with the 1-, 3-, and 5-year MHV patency rates being 81.3%, 68.8%, and 68.8%, respectively (p = 0.037). No patient underwent endovascular stenting of the SHV or MHV. Patency rates were significantly higher for SHV than MHV (p = 0.037).

Conclusions : ASV using various vascular patches is a useful technique enabling secure reconstruction of an RLG in grafts with complex hepatic vein anatomy or recipients with poor IVC condition.

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