Patency of middle hepatic vein reconstruction using Hemashield grafts compared with ringed polytetrafluoroethylene grafts in living donor liver transplantation

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Background: Because of supply shortage for homologous vein allografts, we had used ringed Goretex vascular grafts for middle hepatic vein (MHV) reconstruction in living donor liver transplantation. However, owing to unavailability of ringed Gore-Tex grafts, we replaced them with Hemashield vascular grafts. This study aimed to compare the patency and complication of Hemashield grafts with that of ringed Gore-Tex grafts.

Methods: This was a retrospective double-arm study between the study group that used Hemashield grafts (n=157) and the propensity score-matched control group that used ringed Gore-Tex grafts (n=157).

Results: In the Hemashield and Goretex groups, the mean recipient age was 54.7 ± 9.4 years and 53.3 ± 6.3 years; model for end-stage liver disease score was 15.9 ± 9.2 and 16.9 ± 8.3 ; and graft-recipient weight ratio was 1.07 ± 0.24 and 1.10 ± 0.23 , respectively. In the Hemashield group, V5 reconstruction was done in single (n=113, 72.0%), double (n=39, 24.8%) and triple (n=2, 1.3%). The proportions of double or triple anastomosis for V5 or V8 were higher in the Hemashield group. Two patients (1.3%) required MHV conduit stenting owing to early thrombosis of the Hemashield conduit. There was no difference in conduit occlusion-free patient survival rate between two groups ($P=0.91$). The incidence of conduit migration was 0 and 2 (1.3%) in the Hemashield and Gore-Tex groups, respectively.

Conclusions: MHV reconstruction using Hemashield grafts demonstrated acceptably high short- and mid-term patency rates with no incidence of conduit migration and easy handling and wide flexibility in length adjustment. Therefore, we suggest that Hemashield graft is the most preferable prosthetic material for MHV reconstruction.

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