

# Hepatic Venous Territory Mapping In Living Donor Liver Transplantation Using Right Liver Graft: An Objective Parameter For Venous Reconstruction

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**Background :** This study evaluated the clinical implication of hepatic venous territory mapping in living donor liver transplantation. Living donor liver transplantations performed using right graft

**Methods :** Hepatic venous volume mapping was started in 2019. Risk factors for graft failure and overall survival were analyzed. Analysis for factors related to occlusion of reconstructed vein was performed.

**Results :** Among 445 patients included, 213 underwent hepatic venous mapping. Hepatic venous mapping itself was not a significant factor for graft (HR=0.958, CI=0.441-2.082, P=0.913) and overall survival. (HR=0.627, CI=0.315-1.247, P=0.183) Inferior hepatic vein occlusion was significant risk factors for both graft survival (HR=8.795, CI=1.628-47.523, P=0.012) and overall survival (HR=11.13, CI=2.460-50.30, P=0.002). In a subgroup with middle hepatic vein reconstruction, occlusion was a significant risk factor for overall survival. (HR=3.289, CI=1.304-8.296, P=0.012) In patients with middle hepatic vein reconstruction whose venous territory volumes were measured, right anterior volume  $\geq 300\text{cm}^3$  was protective for vein occlusion. (OR=0.317, CI=0.152-0.662, P=0.002) In patients with V5 reconstruction, V5 volume  $\geq 150\text{cm}^3$  was protective for vein occlusion. (OR=0.253, CI=0.087-0.734, P=0.011)

**Conclusions :** Inferior and middle hepatic vein reconstruction has significant impact on clinical outcome. Hepatic venous territory mapping can provide objective measure for successful reconstruction of venous branches.

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