



LV BEST OP 2

Outcomes and risk factors for living donor liver transplantation using graft-to-recipient weight ratio <0.8 graft: Korean national registry study

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Background : Several single-centric studies reported favorable outcomes in living donor liver transplantation (LDLT) using graft-to-recipient weight ratio (GRWR) <0.8 graft under adequate portal flow modulation. However, this has not yet been validated in multicentric data, and risk factors for LDLT using GRWR <0.8 need further evaluation.

Methods : We performed an observational study using a 3450 LDLT population in Korean Organ Transplantation Registry (KOTRY). Patients were divided into two groups as the GRWR<0.8 group (n=368) and the GRWR≥0.8 group (n=3082) then graft survival was compared in both of entire and propensity-matched cohorts. Adjusted hazard ratios (HRs) for graft survival were evaluated in various subgroups to find risk factors for using GRWR<0.8 graft versus GRWR≥0.8 graft.

Results : In the matched population, 5-year graft survivals were 85.2% in the GRWR<0.8 group and 90.1% in the GRWR≥0.8 group (P=0.013). Multivariable Cox analyses showed that GRWR<0.8 was a significant risk factor for graft loss (HR 1.67, P=0.012). In subgroup analyses, HRs of GRWR<0.8 for graft loss were significant in patients of age≥60 (HR 2.36, P=0.002), male sex (HR 1.51, P=0.029), BMI>23 kg/m² (HR 1.60, P=0.011), alcoholic liver disease (HR 2.37, P=0.009), MELD≥15 (HR 2.40, P<0.001), unrelated donor (HR 2.94, P=0.041), male donor (HR 2.47, P<0.001), and graft weight <600g (HR 1.96, P=0.013), which could be considered risk factors for using GRWR<0.8 graft. When the GRWR<0.8 group was stratified by the number of risk factors, patients with more than five risk factors showed significantly lower 5-year graft survival than those with less than four (90.7% when ≥5 risk factors vs. 62.4% when ≤4 risk factors, P<0.001).

Conclusions : LDLT using GRWR<0.8 graft showed lower graft survival compared to GRWR≥0.8 graft. LDLT with more than five risk factors should be considered as a contraindication for using GRWR<0.8 graft.

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