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COMPARATIVE OUTCOMES OF DECEASED AND LIVING DONOR LIVER TRANSPLANTATION BY GRAFT-TO-RECIPIENT WEIGHT RATIO IN HIGH MELD SCORE PATIENTS

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Background : The graft-to-recipient weight ratio(GRWR) plays a significant role in outcomes of liver transplantation. This study aimed to compare the survival outcomes and risk factors associated with deceased donor liver transplantation(DDLT) and living donor liver transplantation(LDLT) with varying GRWRs in patients with a Model for End-Stage Liver Disease(MELD) score of 35-40.

Methods : We conducted a retrospective analysis of 338 liver transplant recipients, divided into three groups: DDLT, LDLT with GRWR< 1.0, and LDLT with GRWR≥ 1.0. Baseline demographics, clinical characteristics, and donor information were collected. Survival analysis was performed using Kaplan-Meier curves, and risk factors for graft and overall survival were identified using multivariable Cox regression models.

Results : The study included 191 DDLT recipients, 69 LDLT recipients with GRWR< 1.0, and 78 LDLT recipients with GRWR≥ 1.0. Significant differences were observed in recipient age, sex, BMI, etiology of liver disease, ICU stay, and donor characteristics among the groups. Kaplan-Meier analysis showed a significantly higher graft survival rate in LDLT with GRWR≥ 1.0 compared to DDLT and LDLT with GRWR< 1.0(p = 0.011). Multivariable Cox regression showed that LDLT with GRWR≥1.0 showed superior graft survival (HR=0.3348, CI=0.137-0.818, P=0.016) compared to DDLT.

Conclusions : LDLT with a GRWR ≥ 1.0 provides superior graft survival compared to DDLT and LDLT with GRWR < 1.0 in patients with high MELD scores. The CTP score, etiology of liver disease, and donor characteristics are crucial factors influencing post-transplant outcomes. These findings support the consideration of GRWR in donor selection and highlight the need for careful preoperative assessment to optimize transplant success.

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