Prognostic impact of model for end-stage liver disease (MELD) scores greater than 40 in deceased donor liver transplant recipients

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Background: Since 2016, Korean liver organ allocation system has been based on model for end-stage liver disease (MELD). Some patients on waiting list progressed to MELD score >40 due to serious shortage of donor organs. This study investigated prognosis of deceased donor liver transplantation (DDLT) recipients with MELD scores >40.

Methods: Data from adult patients with MELD scores ≥ 31 who underwent DDLT between June 2016 and November 2019 were retrospectively evaluated. Patients were categorized according to Korean Network for Organ Sharing (KONOS) status 3, 2, or MELD-over-40.

Results: During the study period, 168 DDLT operations were performed in 160 patients with KONOS status 3 in 77 (48.1%), status 2 in 65 (40.6%), and MELD-over-40 in 18 (11.3%). Graft survival rates of primary DDLT were 84.0% at 1 year and 70.7% at 3 years. Overall patient survival was 85.2% at 1 year and 70.7% at 3 years. The 3-year patient survival was 74.4%, 75.7%, and 52.7% in KONOS status 3, status 2, and MELD-over-40 groups ($P=0.19$). Pretransplant ventilator support was associated with inferior patient survival outcomes ($P=0.043$), but pretransplant renal replacement therapy showed no prognostic significance. Retransplantation showed a significant prognostic difference ($P<0.001$). Multivariate analysis for overall patient survival showed that pretransplant ventilator support and retransplantation were significant prognostic factors, but MELD score >40 was not seen to be an independent risk factor.

Conclusions: This analysis revealed that very high MELD scores >40 appear to confer additional risk in patients with KONOS status 2 although it was not an independent prognostic factor.

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