PREDICTING FUTILE OUTCOMES FOLLOWING DECEASED DONOR LIVER TRANSPLANTATION IN PATIENTS WITH MELD-NA SCORE ABOVE 30: A RETROSPECTIVE INTERNATIONAL MULTICENTER COHORT STUDY

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Background : In the "sickest first" allocation policy for limited deceased liver grafts, identifying patients "too sick to transplant" is crucial to optimize outcomes. This study aimed to predict futile outcomes following deceased donor liver transplantation (DDLT) in patients with Model for End-Stage Liver Disease-Sodium (MELD-Na) scores ≥30.

Methods : This international multicenter study collected data from 994 patients who underwent DDLT between 2010-2021. Futility was defined as death within three months or during the hospital stay following a DDLT. After exclusion, 160 (16.6%) patients were classified into a futile group and 803 (83.4%) into a non-futile group.

Results : The MELD-Na scores collected at three time points (listing, matching, and transplantation) were comparable between the groups (P=0.442, P=0.180, and P=0.554, respectively). Regarding concomitant organ failure factors, the futile group showed a higher incidence of organ dysfunction across all measured parameters, including the use of mechanical ventilators, continuous renal replacement therapy (CRRT), pneumonia, bacteremia, and vasopressor use (all P<0.01). Independent risk factors for futile outcome were recipient age (≥65 years), body mass index (<18.5 kg/m2), mechanical ventilator use, CRRT (≥1 week), and prolonged ICU stay before transplantation (≥2 weeks). The futility rate was 53.3% in patients with ≥3 risk factors (P<0.001). We developed a nomogram to predict futility after DDLT, which showed better predictive power than previous models.

Conclusions : The risk factors and new nomogram, which adequately reflect concomitant organ failure before liver transplantation, could effectively predict the risk of futile outcomes after DDLT and contribute to decision-making regarding transplantation eligibility in clinical practice.

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