Whole liver deceased donor liver transplantation for pediatric recipients: single-center experience for 20 years

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Background: We investigated the incidence and outcomes of pediatric deceased donor liver transplantation (DDLT) using whole liver grafts in a high-volume liver transplantation (LT) center.

Methods: The study was a retrospective single-center analysis of whole LT in pediatric recipients. The study period was set as 20 years between January 2000 and December 2019. We defined pediatric recipients and donors to be aged ≤ 18 years.

Results: During the study period, there were 98 cases of pediatric DDLT, and 34 patients (34.7%) received whole liver grafts. The age range of the deceased donors was 3 months to 56 years and that of pediatric recipients was 7 months to 17 years. Common primary diseases for LT were biliary atresia in 13, acute liver failure in four, Wilson disease in four, congenital portal vein agenesis in three, and genetic metabolic diseases in three. Pediatric-to-pediatric and adult-to-pediatric whole LTs were 22 (64.7%) and 12 (35.3%), respectively. A good correlation was noted between the donor and the recipient's body weight, and the recipient's body weight and allograft's weight. Graft and overall patient survival rates were 91.2% and 91.2% at 1 year, 88.0% and 88.0% at 3 years, and 88.0% and 88.0% at 5 years, respectively.

Conclusions: The results of this study revealed that Korean Network for Organ Sharing (KONOS) regulations with donor-recipient body weight matching exhibited good performance. Considering the reciprocal trades of liver organs among pediatric and adult donors and recipients, it is necessary to establish a policy for pediatric donor liver grafts to pediatric recipients on a priority basis.

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