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Long-term Outcomes Of Combined Liver-Kidney Transplantation In Pediatric Patients: A Single Center Experience

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Background : Combined liver-kidney transplantation (CLKT) is a therapeutic option for pediatric congenital diseases affecting both liver and kidney. However, long term outcomes and comparison between isolated liver transplantation (LT) are not well known due to its rarity.

Methods : We retrospectively reviewed 231 pediatric patients who underwent LT between 1999 and 2017 in Seoul National University Hospital. Of them, 12 CLKT patients were observed and compared with other 219 isolated LT patients. Subgroup analysis were done by dividing isolated LT patients into two groups: patients with primary disease affecting both liver and kidney (group K, n=26) and those who had disease only related to liver (group NK, n=193).

Results : CLKT patients were comprised of 4 primary hyperoxaluria, 3 congenital hepatic fibrosis, 2 factor H deficiency disease, 2 glycogen storage disease, and 1 urea cycle metabolism disorder. Of 4 (33.3%) patients underwent simultaneous liver-kidney transplantation. 3 (25.0%) patients had re-transplantation due to graft loss during follow up, one of whom underwent 3 weeks after the first operation, however died 16 days later. 9 (75.0%) patients had already initiated renal replacement therapy preoperatively. One of the congenital hepatic fibrosis patient received kidney transplantation (KT) due to autosomal recessive polycystic kidney disease (ARPKD) 7 years after LT, both grafts from the same donor. The 5-year overall survival for CLKT group was 91.7%, while in isolated LT group it was 88.6% (p=0.730). The rate of vascular complication requiring reoperation or intervention did not show difference between two groups (25.0% vs. 34.7%, p=0.756). The biliary complication rate also did not differ (16.7% vs. 18.7%, p=1.000). 5-year OS were comparable with group K (80.8%, p=0.420) and also with group NK (89.0%, p=0.800).

Conclusions : Pediatric CLKT offers similar survival rates and also postoperative complication rates to those in isolated LT.

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