Use of minor donors for living donor liver transplantation and associated ethical issues

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Background: Living liver donation by minors is regarded as justifiable only if minors possess the capacity to consent to donation and the procedure is in their best interests. This study analyzed the incidence of and reasons for living donor liver transplantation (LDLT) by minor donors in Korea, and discussed ethical issues regarding liver donation by minors.

Methods: The databases of the Korean Network for Organ Sharing (KONOS) and Asan Medical Center (AMC) from 2010 to 2019 were retrospectively reviewed to determine the incidence of LDLT by minor donors.

Results: From 2010 to 2019, 590 of 14,243 liver donors (4.1%) in the KONOS database and 276 of 3,401 liver donors (7.5%) in the AMC database were minors. The proportions of minor donors in the KONOS and AMC databases were highest in 2012, at 4.1% and 12.6%, respectively, and lowest in 2019, at 1.1% and 3.0%, respectively. Because most LDLT recipients had relatively low model for end-stage liver disease scores and hepatocellular carcinoma, they were unlikely candidates for deceased-donor liver transplantation and were highly likely to drop out of LDLT if they waited for 1–2 years. The donor-recipient relationship of minor donors in the AMC database was first-degree in 256 (92.8%) and second- or third-degree in 20 (7.2%).

Conclusions: Liver donation by minors is limitedly acceptable only when the minor proves informed, well-considered, and autonomous consent to the procedure and the procedure is in the minor's best interests. We suggest that minors be allowed to donate only to first-degree family members.

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