Safe use of hepatitis B surface antigen positive grafts in liver transplantation: a nationwide study based on Korean Organ Transplantation Registry Data

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Background: Liver grafts from donors with chronic hepatitis B virus (HBV) infection has expanded the donor pool in HBV endemic area. Endeavor to use HBsAg (+) graft as safe alternatives were kept up for several years, and the outcome has improved by using hepatitis B virus immune globulin (HBIG) and nucleoside analogs (NA).

Methods: Among 4,265 liver transplantations (LTs) registered in the KOTRY database prospectively between April 2014 and January 2020, 39 cases (0.9%) of LTs using HBsAg (+) grafts were identified. We compared outcomes and its associating factors in LT using HBsAg (+) grafts compared to HBsAg (–) grafts (n=3,971).

Results: Twenty deceased donor LT (DDLT-HBV) and 19 living donor LT (LDLT-HBV) were performed using HBsAg (+) grafts. They maintained HBIG or NA, or both in the perioperative period. The mean end-stage liver disease (MELD) score was 15.8±9.2, and the follow-up period was 28.0±19.2 months. Six LTs were performed for patients in intensive care unit. There was no difference in the patients' survival between the two groups (P=0.111). In addition, no difference between LDLT-HBV and DDLT-HBV was observed (P=0.885). Fifteen patients (38.5%) experienced HBV reactivation and HCC recurred in three patients (7.7%). Three patients underwent re-transplantation because of graft failure that was not related to HBV.

Conclusions: In the era of NA for HBV, HBsAg (+) liver graft can be used safely with expanding donor pool in HBV endemic areas.

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