Outcome after kidney transplantation in hepatitis B surface antigen-positive patients

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Background: Few reports detail the actual outcome of hepatitis B surface antigen (HBsAg)-positive patients after kidney transplant. This study aimed to provide real-world outcomes of HBsAg-positive patients after kidney transplant.

Methods: HBsAg-positive patients who underwent kidney transplants between January 1999 and December 2018 at a single institution were enrolled retrospectively. Outcomes including hepatitis B virus (HBV) reactivation rate, risk factors for reactivation, and patient and graft survival rates were analyzed. Patient and graft survival rates for positive patients were compared to those of propensity score-matched negative patients.

Results: Seventy-seven patients were enrolled (age, 47.1±11.5 years). Patients received ABO-incompatible (n=5), crossmatch positive transplant (n=2), and re-transplant (n=4). Three patients received rabbit anti-thymocyte globulin, and 10 received rituximab. Forty-six patients received prophylactic, 19 received medication at least 3 months before the transplant, and 12 did not receive medication. Seventeen out of 76 patients developed reactivation post-transplant. Of HBV reactivation, 52.9% was accompanied by hepatitis. Inappropriate, other than lifelong prophylactic, antiviral agents (hazard ratio [HR], 7.34; 95% confidence interval [CI], 1.51–35.69; P=0.01) and high hepatitis DNA (≥1,000 IU/mL) pre-transplant (HR, 4.39; 95% CI, 1.08–17.81; P=0.04) increased reactivation risk. There was no significant difference in patient survival between antigen-positive patients who received antiviral agent and propensity score-matched negative patients.

Conclusions: HBsAg positivity in kidney transplant recipients is associated with substantial HBV reactivation rate. Lifelong antiviral therapy is mandatory, and patients with high preoperative HBV titer should be monitored closely for HBV reactivation.

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