

Kidney III - Challenges in Kidney Transplantation

Hepatitis B infection in transplant recipients

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Chronic hepatitis B virus (HBV) infection is associated with adverse short- and long-term outcomes in kidney transplant recipients (KTRs). Prophylactic/pre-emptive use of nucleotide/nucleoside analogues (NAs) can prevent HBV reactivation and reduce the risk of long-term hepatic complications such as cirrhosis and hepatocellular carcinoma (HCC). Lamivudine (LAM) is the first NA available but its prolonged administration is complicated with high rates of drug resistance. Entecavir (ETV) showed good anti-viral efficacy and low resistance rates, and hence are first-line agent for treatment-naïve HBsAg+ KTRs. Adefovir dipivoxil (ADV) and older generations of tenofovir derivatives (e.g. tenofovir disoproxil fumarate, TDF) can serve as salvage therapy for LAM-resistant HBV, but these agents are associated with substantial nephrotoxicity and hence less preferred in KTRs. Tenofovir alafenamide (TAF) is a novel NA with excellent inhibitory actions against wild-type and resistant HBV, and has improved renal safety compared to TDF. Recent data suggested that TAF treatment was associated with effective HBV viral suppression for both treatment-naïve and treatment-experienced HBsAg+ KTRs, and with low resistance rates and favourable renal and bone profiles. While the use of NAs can significantly improve outcomes of HBsAg+ KTRs, the choice of drug in HBsAg+ KTRs should take into considerable the potency of viral suppression, resistance rates as well as the long-term renal and bone safety profiles. Other important aspects in managing HBV infection in kidney transplantation include careful matching of donor/recipient HBV status, effective HBV vaccination and regular surveillance of HCC.