

KSN 2017 Abstract

KSN-17-O073

Clinical outcomes of patients with BK viremia in ABO-incompatible Kidney Transplantation compared to ABO-compatible kidney transplantation

Jung a YOON, Minseon CHEONG, Sun myung KANG , Chunghee BAECK, Soon bae KIM, Su-kil PARK, *Hyosang KIM

Division of Nephrology, Department of Internal Medicine, Asan Medical Center, University of Ulsan College of Medicine, Korea, South

Objectives : ABO-incompatible kidney transplantation (ABOiKT) recipients may have increased risk of BK virus allograft nephropathy (BKVAN), which is a major cause of renal dysfunction and allograft loss. We investigated BK viremia and BKVAN in ABOiKT recipients compared with ABO compatible kidney transplantation (ABOcKT) recipients.

Methods : All 1275 patients underwent renal transplantation at Asan Medical Center, from January 2012 to December 2015 (n = 245 ABOiKT and n = 1030 ABOcKT). For desensitization, ABOiKT recipients received anti-CD20 antibody (200mg rituximab) two weeks before the transplant and received plasmapheresis 3 to 4 times until the isoagglutinin anti-ABO antibody ratio was $\leq 1:4$. High BK viremia was defined as serum BK viral load with peak $\geq 10,000$ copies more than once after transplantation and low viremia was defined as serum BK viral load with peak $< 10,000$ copies. BKVAN was confirmed by biopsy.

Results : The incidence of BK viremia was 12.7% (n = 31) in ABOiKT and 8.2% (n = 84) in ABOcKT (p=0.028). BKVAN was diagnosed in 4.9% (n = 12) of ABOiKT recipients and 1.7% (n = 17) of ABOcKT recipients (p = 0.005). At 3 months after transplantation, BKV load was the highest and BKV load in ABOiKT recipients was higher than in ABOcKT recipients (4.62 log copies/ml vs 3.57 log copies/ml, p=0.008). In recipients with high BK viremia, graft survival was not different between ABOiKT recipients and ABOcKT recipients (p = 0.794). About 80% of recipients with high BK viremia were used tacrolimus-based immunosuppression and there was no difference in trough levels of tacrolimus between ABOiKT recipients and ABOcKT recipients. Among ABOiKT recipients, the mean estimated glomerular filtration rate of high BK viremia group (group A) was lower than that of aviremia or low viremia group (group B) at 6 months and 12 months (63.8 mL/min/1.73 m² vs 79.3 mL/min/1.73 m² and 67 mL/min/1.73 m² vs 81.3 mL/min/1.73 m², p=0.001 and p=0.003, respectively). Graft survival was not significantly different between group A and group B (p=0.118)

KSN 2017 Abstract

Conclusions : ABOiKT recipients have a greater risk for BK viremia and BK allograft nephropathy compared to ABOcKT. In ABOiKT, high BK viremia was associated with worse graft function although it did not affect the survival of the graft.

Keywords : ABO incompatible kidney transplantation; BK virus