

신장이식에서 항체 매개성 거부반응과 탈감작에서의 Bortezomib의 사용

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Bortezomib for Antibody Mediated Rejection or Desensitization in Kidney Transplantation

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Introduction: Bortezomib, a proteasome inhibitor showed significant apoptotic effect on plasma cells; Hence, it is expected to suppress humoral immune response that did not respond to rituximab or plasmapheresis in kidney transplantation. The aim of this study is to investigate the effect of bortezomib in desensitization and treatment for antibody mediated rejection (AMR) in kidney transplantation.

Methods: Total seven patients were included in this study. For 4 patients (AMR group), bortezomib was used for the treatment of AMR that was refractory to rituximab (RTX) and plasmapheresis/intravenous immune globulin (PP/IVIG) therapy. For the other 3 patients, it was used for pre-transplant desensitization for anti-HLA antibody (n=2) or anti-ABO antibody (n=1). All patients took RTX and PP/IVIG therapy before the use of bortezomib. Analysis has been conducted of the effect of bortezomib on the clinical outcome of the patients

Results: Out of 4 AMR treatment group, 2 patients showed full recovery from AMR after the treatment of bortezomib. Serum creatinine level recovered to baseline value and donor specific anti-HLA antibody (HLA-DSA) decreased to weak or negative level. However, the other 2 patients did not show the improvement of allograft function and HLA-DSA did not decrease either even after four times of bortezomib infusion. In the desensitization group, successful negative conversion was achieved and HLA-DSA was decreased to less than weak level (MFI<5,000) in 2 patients with positive T- complement dependent lymphocytotoxicity. In case of ABO incompatible kidney transplantation with extremely high baseline anti-A/B antibody titer ($\geq 1:1024$), titer was successfully decreased to less than target titer ($\leq 1:16$) after the administration of bortezomib.

Conclusion: Bortezomib could be considered as alternative therapeutic option for desensitization and treatment of AMR in cases that did not respond to conventional therapies such as RTX/PP/IVIG.

Key Words: 보테조미브, 항체매개성거부반응, 탈감작

Bortezomib, Desensitization, Antibody mediated rejection