

보테조립을 이용한 고도감작 뇌사대기자 탈감작의 성적

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Successful Interim Outcomes of Bortezomib Desensitization on Highly Sensitized Deceased Donor Kidney Transplant Waitlist Patients

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Background: Highly sensitized (HS) patients seldom have chance to receive kidney transplant. To increase transplantation rate among those population, previous IV immunoglobulin and rituximab desensitization protocol showed good transplant conversion rate, but also carried moderate rate of antibody mediated rejection. Bortezomib, a proteasome inhibitor can control the production of anti-HLA antibodies through plasma cell apoptosis. A single center waitlist desensitization program was employed to facilitate successful kidney transplantation in HS patients group.

Methods: We prospectively enrolled 23 patients from Jul 2010 to Dec 2013. Desensitization protocol included two doses of IVIG (2 g/kg), single dose of rituximab (375 mg/m², max 500 mg), and 4 days of bortezomib (1.3 mg/m² on days 1,3,7 and 9). Anti-HLA class I and II antibodies were determined by Luminex solid phase bead assay at baseline and M2, M3 and M6. We investigated the difference of transplant conversion rate between desensitized HS patients and non-desensitized HS waitlist patients. Also we analyzed the difference of PRA % values and mean fluorescence intensity (MFI) between pre- and post-desensitization serum.

Results: Mean age of treatment group was 48.7±11.2 years old. Male to female ratio was 12:11. O+ blood type patients were 34.8% of patients. Mean duration of previous renal replacement therapy were 153.5±65.5 months. Baseline mean class I and II PRA % values were 86±15.3 and 66±34. Baseline class I and II MFI values were 13893±6147 and 12274±6891. After desensitization, kidney transplant were successfully performed in 34.8% of patients, compared to 13.8% transplant conversion rate among non-desensitized HS controls (p=0.001 by Log-Rank). Among KT recipients, median duration of waiting after desensitization was 3 months with interquartile range 2-8.1 months. Class I PRA % had showed decreased values until 3 months after desensitization. After 6 months, there were no differences between the class I PRA values between pre-desensitization samples and post-desensitization samples. There were no other differences except class I PRA % values. Desensitization protocol were generally well tolerated, with the completion rate of 92% patients. There were no serious adverse events, but moderate adverse event were in 46%, most commonly fever and diarrhea.

Conclusion: Highly sensitized waitlist patients are manageable by desensitization protocol including bortezomib.

Key Words: 탈감작, 신장이식, 뇌사이식
Desensitization, Transplant, Deceased donor transplant