

신장 이식 환자에서 만성 항체매개거부반응의 임상상

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Clinical Phenotypes of Chronic Antibody-mediated Rejection after Renal Transplantation

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Background: Chronic antibody-mediated rejection (CAMR) is significant challenge for long term renal graft survival over the last decade. The prognosis of untreated CAMR is poor, but the clinical and immunological phenotype of CAMR remained unclear. Herein, we analyzed clinical phenotypes and anti-humoral treatment responses of 26 cases of CAMR in kidney transplant recipients.

Patients and methods: From February 2005 to October 2012, 915 renal transplantations were performed at the Seoul National University Hospital. Among them, 26 (2.8%) patients were diagnosed biopsy proven CAMR according to Banff '05 and '07 criteria. We reviewed their clinical and immunological characteristics at the time of transplantation and diagnosis of CAMR.

Results: The median time to the development of CAMR after kidney transplantation was 8.81±1.13 years. Eighteen of 26 patients (69.2%) received kidney graft from living related donor, three (11.5%) from living unrelated donor, and four (15.4%) from cadaveric donor. The mean number of human leukocyte antigen (HLA) type mismatch was 2.45±1.51. And there was no patient who underwent ABO-incompatible kidney transplantation or desensitization pre-therapy such as apheresis, rituximab. Kidney allograft biopsy was done when the increase of serum creatinine (>15%), DSA titer (mean fluorescence intensity>10,000), or proteinuria was observed. The initial therapy for CAMR consisted of various combinations of immune-suppressive agents, such as intravenous immunoglobulin G (IVIg), plasmapheresis, rituximab, bortezomib, and high dose steroid pulse therapy. After the treatment, three response groups were classified. 9 patients (37.5%) were non-responders, 7 patients (29.2%) were partial responders, and 8 patients (33.3%) were responders respectively. Eighteen of 26 patients had Rituximab therapy. There was no difference in treatment response according to rituximab therapy. In addition, bortezomib was applied to 4 patients, following 1 non-responder, 2 partial responders, and 1 responder. Histological analysis showed that the grade of interstitial fibrosis and tubular atrophy was lower as response is better (p=0.037).

Conclusion: This observation study showed basic characteristics of CAMR patients, also demonstrated pathological findings such as interstitial fibrosis and tubular atrophy can be the prognostic parameters of anti-humoral therapy. Understanding basic clinical phenotypes of CAMR can be the cornerstone of further research.

Key Words: 신장이식, 만성항체매개거부반응, 임상양상

Kidney transplantation, Chronic AMR, Clinical phenotypes