

신이식을 받은 환자에서 지속적으로 높은 CRP값의 임상적의의

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Clinical Significance of Sustained High CRP Level in Renal Transplant Recipients

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Background: Chronic inflammation is a major cause and an aggravating factor of atherosclerosis. C-reactive protein (CRP) level is a reliable marker of inflammation. Sustained elevation of CRP level is predictive of cardiovascular morbidity and mortality in general population and ESRD patient. Cardiovascular complications are important cause of death and graft loss in kidney transplantation recipient. The aim of this study is to evaluate whether sustained high CRP level is effective in predicting cardiovascular complication and the allograft outcome in renal transplant recipients.

Methods: From June, 2001 to January, 2008, 332 cases of kidney transplantation have been performed in Seoul St. Mary's Hospital. Total 224 patients were enrolled. We divided patient population into the high CRP group and the normal CRP group. The high CRP group was defined as persistently elevated CRP concentration (>0.5 mg/dL) at least 6 months. We compared the cardiovascular complications (coronary heart disease, stroke, peripheral arterial disease) and allograft outcome between two groups. Patients who have experienced active infection, viral hepatitis and malignancy were excluded.

Result: The prevalence of sustained high CRP level in renal transplant recipients was 8.9% (20/224). Two groups were similar in regard to age, underlying renal disease, dialysis mode, HLA mismatch, renal replacement period, acute rejection and immunosuppressive therapy. The high CRP group showed higher cardiovascular complications than normal CRP group (15% vs. 1.5%, $p < 0.001$). The graft survival rate in high CRP group was lower than the normal CRP group at one year (74% vs. 99%, $p < 0.001$) and five year (95% vs. 46%, $p < 0.05$). In multivariate analysis, high CRP concentration was an independent prognostic factor for cardiovascular complication (relative risk [RR], 13.7; $P < 0.001$) and graft outcome (RR, 16.5; $P < 0.001$).

Conclusion: Persistent elevation of CRP concentration is significantly associated with the development of cardiovascular complication and poor graft outcome in renal transplant recipients.

Key Words: 신이식, 심혈관계합병증, CRP

Post-kidney transpantation, CRP, Cardiovascular complication