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만성기능부전을 보이는 신이식 환자에서 Th17 경로의 임상적 중요성

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Clinical Significance of Th17 Cell Pathway for the Progression of Chronic Allograft Dysfunction in Kidney Transplant Recipients

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The purpose of this study is to define the significance of Th17 cell pathway in the progression of chronic allograft dysfunction in kidney transplant recipients (KTR). We investigated the expression of T cell phenotype in long-term stable KTRs (LTS, n=67), KTRs with chronic allograft dysfunction group (CAD, n=52) and also in three control groups (early stable KTRs (ES, n=28), end stage renal disease (ESRD, n=45), healthy control group (HC, n=26)). The percentage of Th17 cells or CCR4+CCR6+ T cells out of CD4+ T cell or and IL-17 production from effector memory T cells showed significant increase in CAD group compared to LTS group and to other control groups ($p<0.05$). However, the percentage of Th1, Th2 and regulatory T cell did not differ significantly between CAD and LTS groups ($p>0.05$). Serum level of IL-17, IL-33, RAGE and the expression IL-1beta, RAGE, HMGB1 mRNA showed increase in CAD group compared to LTS group as well. Lastly, IL-17 induced acute and chronic injury in human proximal renal tubular epithelial cell line in a dose dependent manner. The result of this study showed that the activation of Th17 pathway is significantly associated with the progression of chronic allograft dysfunction.

Key Words: 신장이식, Th17 세포, 만성기능부전
Kidney transplantation, Th17, Chronic allograft dysfunction