

신장이식후 급성 거부반응 환자에서 신장내 IL7 활성화에 대한 연구

경희대학교 의과대학 신장내과학교실

이상호, 김은영, 문주영, 정경한, 임천규, 이태원

Intrarenal activation of Interleukines-7 and Interleukin-7 Receptor is Associated with Acute Rejection after Kidney Transplantation

Sangho Lee, Eun-Young Kim, Ju-Young Moon, Kyung hwan Jeong, Chun-Gyoo Ihm, Tae Won Lee

Department of Nephrology, Kyung Hee University School of Medicine, Seoul, Korea

Background: Interleukin-7 is essential for the generation and maintenance of memory T cells and naïve T cells. And there are some experimental results supporting the relationship with T cells expressing IL-7/IL-7R and acute or chronic rejection of transplanted kidney. In this study, we investigated the biologic function of interleukin-7 (IL-7) and interleukin-7 receptor (IL-7R) in acute rejection of transplanted kidney with immunohistochemistry of kidney biopsy and measurement of urine IL7 and IL7R.

Methods: We reviewed 21 renal biopsy of transplanted kidney and performed immunohistochemical staining with IL-7 and IL-7R. Urine IL7 and IL7R were also measured by ELISA. There were 13 cases of acute rejection (AR), 2 of chronic rejection, 1 of BK virus nephropathy and 5 of non rejected kidney.

Results: Mean age of patients was 42.2 years old and mean duration of transplantation to biopsy was 4.5 months. Mean serum creatinine level at the time of biopsy was 2.13 in acute rejections and 0.98 in controls. Compare AR patients and controls, there was no differences of IL-7 stain at glomeruli, tubules and IL7-R at glumeruli and tubules ($p=0.50$, $p=0.29$, $p=0.70$, $p=0.12$, respectively). But there was significant difference of immuno-histochemical stain of IL-7 and IL-7R at interstitial lymphocytes ($p<0.01$, $p<0.01$, respectively). Urine IL7 and IL7R levels are significantly higher in AR patients as compared with controls ($p<0.01$, $p<0.01$, respectively).

Conclusions: This data shows IL7 pathway is activated in AR patients after kidney transplantation. And activation of lymphocyte is the main mechanism of intrarenal activation of IL7 pathway.

Key Words: 신장이식, 인터루킨7, 인터루킨7 수용체

Kidney transplantation, IL7, IL7 receptor