

초기 급성 이식 신우 신염으로 인한 이식신 기능의 악화

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Deterioration of Renal Allograft Function by Early Acute Graft Pyelonephritis

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Background: Urinary tract infections (UTIs) are the most common bacterial infections encountered in kidney transplant recipients. Although UTIs are benign in nature, UTIs complicated by acute graft pyelonephritis (AGPN) are associated with acute kidney injury and renal allograft scarring. However, the influence of AGPN on renal allograft outcome in kidney transplant recipients remains controversial.

Material & Methods: Two-hundred sixty-five kidney transplant recipients were evaluated for the impact of early AGPN on renal allograft function between January 2001 and December 2011. Early AGPN was defined as the first AGPN episode occurring within 6 months after kidney transplantation. The changes in estimated glomerular filtration rate (eGFR) over time were compared between patients with and without early AGPN using a linear mixed model. Moreover, Kaplan-Meier (KM) plot and Cox analyses were conducted to evaluate the influence of early AGPN on renal allograft outcome, a reduction in eGFR by 30% over 2 years.

Results: Among the 265 recipients, 30 (11.3%) recipients were diagnosed with early AGPN. During the mean follow-up of 69.1 ± 28.9 months, 56 (21.1%) patients reached renal allograft outcome, and renal allograft outcome was significantly higher in the early AGPN group (43.3% vs. 18.3%, $p=0.002$). Moreover, a liner mixed model revealed a significant difference in the rate of eGFR decline over time between the two groups ($p<0.001$). A Kaplan-Meier analysis showed that renal allograft event-free survival was significantly lower in the early AGPN group ($P=0.006$). In multivariate Cox regression analyses, early AGPN was found to be an independent predictor of renal allograft outcome (hazard ratio, 2.37; 95% confidence interval [CI], 1.15-4.91; $p=0.02$).

Conclusions: This retrospective cohort study showed that early AGPN in kidney transplant recipients was independently associated with deteriorating renal allograft function. Thus, this study demonstrates that early AGPN could be a predictor for long-term renal allograft outcome.

Key Words: 신장, 동종이식, 신우 신염

Kidney, Allograft, Pyelonephritis