P145

신이식 환자에서 BK바이러스 신증 예방을 위한 BK 바이러스 혈증의 감시의 임상적 효용성

가톨릭대학교 의과대학 내과학교실 신장내과

정병하 · 김현경 · 최선령 · 선인오 · 박훈석 · 최범순 · 박철휘 · 김용수 · 방병기 · 양철우

Clinical Usefulness of BK Viremia Monitoring to Prevent the Development of BK Virus Associated Nephropathy in Renal Transplant Recipient

Byung Ha Chung, Hyun Gyung Kim, Sun Ryoung Choi, In O Sun, Hoon Suk Park
Bum Soon Choi, Cheol Whee Park, Yong-Soo Kim, Byung Kee Bang, Chul Woo Yang

The Catholic University of Korea Department of Internal Medicine Division of Nephrology

Background: The present study investigated the clinical usefulness of plasma real-time PCR (plasma PCR) in the prevention of BK virus-associated nephropathy (BKVAN).

Methods: We first evaluated whether plasma PCR was superior to urine decoy cells or urine BKV real-time PCR (urine PCR) for the prediction of BKVAN in a retrospective cohort. Then we designed a prospective study of regular plasma-PCR monitoring and pre-emptive immunosuppression (IS) reduction based on the result, and we investigated the effectiveness and safety of this prospective protocol.

Results: In the retrospective cohort, the prevalence of BKVAN was 3.0% (18/299) and the positive rate of decoy cells, urine PCR, and plasma PCR was 18.6%, 11.1%, and 5.5%, respectively. Plasma PCR was superior to urine PCR or urine decoy cells in specificity and positive predictive value for detection of BKV nephropathy. In the prospective study, regular monitoring of plasma PCR successfully detected significant BKV viraemia in 8.3% (12/145) and BKVAN in 1 patient (0.6%). After IS reduction, BKV viraemia was eliminated in 91.6% (11/12) within 103 days (25-254). In patients with viraemia, the frequency of acute rejection did not increase and allograft function did not differ significantly compared to those in patients without viraemia during the first year post-transplant ($p>0.05$, in both).

Conclusion: Plasma PCR is a reliable method for the diagnosis of presumptive BKVAN and regular monitoring is useful to prevent the development of BKVAN.

Key Words: BK 바이러스, 실시간 중합효소연쇄반응, 신장 이식
BK virus, Real time PCR, Kidney transplantation