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신기능 저하로 조직 검사를 시행하는 환자에서 측정된 공여자 특이 항체의 임상적 의미

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Clinical impact of HLA-DNA Measured by Luminex Technique in Kidney Transplant Recipients with Renal Allograft Dysfunction

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In this study, we aimed to investigate the clinical impact of donor-specific anti-HLA-antibody (HLA-DNA) measured using the Luminex single-antigen assay in patients who took indicated biopsy due to allograft dysfunction. Between Feb. 2010 and Feb. 2013, total 210 cases of indication biopsy were performed in St. Mary's hospital. In all cases, we examined the presence of HLA-DNA using Luminex technique when allograft biopsy was done. Advanced chronic change (IF/TA III-IV), recurrent glomerulonephritis, BK virus nephropathy or diabetic nephropathy were excluded, hence we included 170 cases of biopsy in this analysis. We investigated the pathologic finding of biopsy specimen and the clinical impact of HLA-DNA in those cases. Among 170 cases, antibody mediated rejection (AMR) were 25 cases and 73 cases were diagnosed as T cell mediated rejection (TCMR), and remained 72 cases were calcineurin inhibitor toxicity (n=44), borderline change (n=20) or mild acute tubular necrosis (n=8). HLA-DNA exists at the time of biopsy in 23 cases of AMR (92%). In 73 cases of TCMR, HLA-DNA was detected in 41 cases (56.2%). In contrast, it was rarely detected in other cases without rejection. In TCMR, cases with HLA-DNA showed higher rate of steroid resistance compared to cases without HLA-DNA (41% (14/33) vs. 13.3% (4/30), p<0.05). In addition, allograft function at 3 and 6 months after allograft biopsy showed more deteriorating pattern in cases with HLA-DNA (p<0.05 respectively). Allograft survival rate after allograft biopsy was significantly inferior in cases with HLA-DNA compared to cases without HLA-DNA as well (p=0.03). In contrast, in cases with AMR, CNI toxicity or borderline change, the presence of HLA-DNA did not affect the allograft outcome after biopsy. HLA-DNA was commonly detected in cases with allograft dysfunction even in TCMR and it is useful to predict the clinical outcome after the diagnosis of TCMR.

Key Words: 공여자 특이항체, 신장이식, 거부반응

Donor specific antibody, Kidney transplantation, Rejection