

항체 매개성 신등종이식 거부반응; 임상 병리적 관련성

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Antibody Mediated Renal Allograft Rejection: Clinicopathologic Correlation

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Alloantibodies are now appreciated as important mediators of acute and chronic rejection and preferentially attack the peritubular and glomerular capillaries, in contrast to usual T cell- mediated rejection, which characteristically infiltrate tubules and arterial endothelium.

C4d, a compliment split fragment of C4, is activated during classic pathway and covalently binds to endothelial surface and basement membrane of peritubular and glomerular capillaries in renal allograft. C4d deposition has been clenched as a footprint of a antibody mediated rejection (AMR). To investigate the diagnostic and clinical significance of AMR, we analyzed the pathologic and clinical data according to the evidence of antibody mediated rejection including C4d deposition in post- kidney transplantation (PSKT) patients. From April 2003 to May 2007, immunofluorescent staining for C4d was performed on 211 frozen kidney biopsy tissues in Kangnam St. Mary's hospital, Catholic University Medical Center. Pathologic diagnosis was made according to the 97 Banff classification. Among 211 biopsies, C4d+ AMR group was 32 (15.1%) and C4d- group was 179 (84.8%) cases. There were 7 (23.3%) pure AMR cases composed of 3 cases of AMR type I and 4 cases of AMR type II and showed no graft failure. Among 32 AMR cases, the diagnosis of 4 (12.5%) borderline changes, 10 (31.2%) acute rejections, 5 (15.6%) chronic allograft nephropathies, 1 (3.1%) immunosuppressant associated arteriopathy and 2 (6.2%) combined acute rejection and chronic allograft nephropathies coexisted with AMR. There were 7 (21.9%) AMR type I and 25 (68.1%) AMR type II but no AMR type III was checked. The mean of serum creatinine at biopsy of AMR patient was significantly higher than that of creatinine at biopsy of patient without AMR (2.84 vs 1.47, p=0.000). There was no significant clinical difference between AMR type I and type II. While AMR cases combined with other pathologic diagnosis showed high graft failure rate, pure AMR cases showed no graft failure. The cases of acute rejection combined with AMR (n=12) showed significantly poor outcome rather than the cases of acute rejection without AMR (n=21); higher serum creatinine level at biopsy (4.24 vs 2.22 mg/dL, p=0.05) and lower graft survival rate (mean= 50 vs 98 months, p=0.013). In conclusion, Attention should be paid to the associated pathologic and clinical changes of AMR. More aggressive treatment is required to overcome poor prognosis in AMR associated rejection cases.

Key Words : 신이식, 거부반응, C4d
Allograft, kidney, C4d