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**Clinical Significance of C4d by Kidney Allograft Biopsies on Post-transplant Clinical Outcomes**

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**Objectives:** C4d is a diagnostic criterion for antibody-mediated rejection in kidney transplantation (KT), and positive C4d antibody-mediated rejection (AMR) has poor prognosis. Recently, microvascular inflammation with negative C4d finding is known as an important form of AMR, but the clinical course of KT with and without C4d stain remains controversial. We aimed to investigate the clinical significance of C4d on post-transplant clinical outcomes.

**Methods:** We retrospectively analyzed the medical records of 78 kidney transplant recipients (KTRs) diagnosed to AMR by allograft biopsies between 2006 and 2016. We investigated the clinical characteristics, pathologic findings by allograft biopsies, death-censored allograft and patient survival rates between C4d (-) AMR and C4d (+) AMR groups.

**Results:** There was no significant difference of mean age of donor and recipient between C4d (-) AMR and C4d (+) AMR groups. There were also no significant differences of the proportion of gender, KT type, frequency of KT, the number of HLA mismatches, induction and maintenance immunosuppressants, usage of mycophenolate mofetil, the rate of panel reactive antibody > 50%, and positive donor specific antibody between the two groups. However, the mean amount of proteinuria was significantly lower in the C4d (-) AMR group compared with C4d (+) AMR group (P = 0.026). In the pathologic findings, there were no significant differences of microvascular inflammation, transplant glomerulopathy, and interstitial fibrosis/tubular atrophy between the two groups. In Kaplan-Meier analysis, death-censored graft survival and patient survival rates also showed no significant differences between the two groups.

**Conclusions:** Our study showed that C4d (-) AMR had poor prognosis as C4d (+) AMR. Further studies needs to evaluate clinical significance of C4d on post-transplant clinical outcomes.