

신장이식 환자에서 antibody monitoring system과 single-antigen Luminex assay 비교

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Comparison of Antibody Monitoring System with Single Antigen Luminex Assay in Renal Transplant Recipient

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Background: The antibody monitoring system (AMS) is a recently developed ELISA crossmatch assay to detect donor-specific anti-HLA IgG antibodies (DS-HLA Abs). This study was performed to compare the AMS with DS-HLA Abs detected by single-antigen Luminex panel reactive antibody assay in renal transplant recipients. **Methods:** Twenty sera were screened from 17 patients on the waiting list for kidney transplantation for the presence of DS-HLA Abs. When anti-HLA Ab was detected by Luminex assay and the matched donor had the corresponding mismatched HLA antigen, it was considered to indicate DS-HLA Ab. The results of AMS and Luminex assay were compared.

Results: Six (30%) sera were positive for DS-HLA Abs detected by Luminex assay. AMS assay showed that the number of compatible sera with DS-HLA Abs was 17 (85%), and it was a significantly concordant ($r^2=0.642$, $p=0.018$). The sensitivity of the AMS assay for detection of DS-HLA Abs was 50%; the specificity was 100%; the positive predictive value was 100%, and the negative predictive value was 82%. The DS-HLA Abs was compatible with flow cytometric crossmatch test in 17 sera (85%), and AMS results were compatible in 16 sera (80%). Of the five patients who performed with renal biopsies, AMS results were predictive for C4d positivity in the four patients (80%) and DS-HLA Abs was predictive in five patients (100%).

Conclusion: AMS assay was comparable with Luminex assay to detect anti-HLA alloantibody in renal transplant recipients.

Key Words: 항체추적 시스템, Luminex assay, 신장이식

Antibody monitoring system, Luminex assay, Renal transplant