THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
APSN
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

Abstract Submission No.: A-1538

Human leucocyte antigens association with anti-SARS-CoV-2 spike protein humoral response in renal allograft recipient.

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Objectives : To determine the association of specific HLA alleles with anti-SARS-CoV-2 spike protein antibody formation in renal allograft recepients
Methods : In this study anti-SARS-CoV-2 spike protein antibody in 161 renal allograft recipient patients were determined by the chemiluminescent microparticle immunoassay methods and human leukocyte antigen alleles were determined by the polymerase chain reaction-single strand oligonucleotide methods and analyzed to study the association of HLA alleles with anti-SARS-CoV-2 spike protein antibody seroconversion and severity of COVID-19 symptoms in recently SARS-CoV-2 infected patients.
Results : The anti-SARS-CoV-2 spike protein antibody seroconversion rate in renal allograft recipients were 90.06% with median titer 751.80 AU/ml. HLA class I alleles A*11 22.1%, A*24 in 21.37%, A*33 in 20.68% ,HLA B*15 in 11%, B*07 in 8.27%, HLA-C*30 in 20.93% and C*70 in 23.25% and Class II HLA alleles -DRB1*07 in 18.62%, DRB1*04 in 13.8%, HLA-DRB1*10 in 14.48% and HLA-DQA1*50 in 32.55% of patient were associated with seroconversion, Mean post-infection time of patients recovery from COVID19 symptoms was 18.25±8.14 days.
Conclusions : Renal transplant recipients with natural SARS-CoV-2 infection developed a robust seroconversion rate 90.0% and alleles of HLA-B, DRB1 and DQA1 were significantly associated with seroconversion