

Abstract Submission No.: A-0828**Clinical outcomes of repeat kidney transplantation according to repeat HLA mismatch and Class II molecular mismatch**

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Objectives : Repeat kidney transplantation (re-KT) is a desirable treatment option for patient with graft failure. Though re-KT has better outcome than maintain dialysis, re-KT recipients have high immunological risk and showed inferior outcomes and higher rate of rejection than single KT recipients.

Methods : To investigate the impact of sensitization in clinical outcomes, we analyzed re-KT performed in Seoul St. Mary's Hospital from April 2009 to May 2023, according to HLA re-exposure. Total 318 re-KT was performed but 196 recipients were excluded due to lack of previous HLA type data. Among remaining 122 recipients, 81 re-KT recipients were not exposed to previous HLA (group 1), while 41 re-KT recipients were exposed to previous HLA (group 2). Clinical outcomes including death censored graft survival rate and acute rejection free survival rate were analyzed and compared.

Results : Death censored graft survival was similar between group 1 and group 2 recipients (97.5 % vs. 92.7 %, P value = 0.21). Group 2 recipients showed worse rejection free survival rate, compared to group 1 recipients (87.7 % vs. 70.7 %, P value = 0.01). Group 2 recipients showed higher incidence of biopsy-proven allograft rejection (BPAR, 12.3 % vs. 29.2 %, P value = 0.02) and most of BPAR was acute antibody-mediated rejection (ABMR). Among the baseline immunological studies, group 2 recipients had more burden of total DR eplet mismatch and more of them were in the high burden group than group 1 recipients (10.3 ± 6.1 vs. 18.9 ± 11.7 , P value = 0.00).

Conclusions : Re-KT recipients who encountered previously sensitized HLA has increased risk of acute rejection compare to recipients avoided previous HLA. Total DR eplet mismatch might have an adverse impact on occurrence of acute rejection. A precise approach to prevent rejection in re- KT recipients are desired.