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## **Comparison of the Impact between Peak MFI versus Sum of MFI Value of Donor Specific Anti-HLA Antibody on the Post-transplant Clinical Outcomes**

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**Objectives:** In this study, we investigated to verify which of the peak value of donor-specific HLA antibodies (DSA) mean fluorescent intensity (MFI) and Sum of MFI value of predicts ABMR and graft loss well in in kidney transplant recipients (KTR).

**Methods:** Analysis was performed on 1322 KTR in Seoul St. Mary's Hospital between 2009 and 2018. Of these, 475 patients did not required desensitization (Control group) and 182 patients without DSA underwent desensitization for reasons such as positive cross-match or PRA (No DSA Group). There were 33 patients with one DSA (DSA 1 group) and 33 patients with two or more DSA (DSA 2 group). The effect of the DSA MFI value on ABMR was analyzed by cox proportional hazards analysis, and the log transformation was used as the range of the MFI value was too large.

**Results:** The incidence of ABMR was 20.8% in the control group, 11.2% in the No DSA group, 22.2% in the DSA 1 group, and 39.1% in the DSA 2 group (p value 0.013). Chronic active ABMR, BKV nephropathy, CNI toxicity and graft failure did not differ significantly between groups. As the log(Sum of MFI) value increased by 1, the risk of ABMR increased about 3.056 times and was statistically significant. Sum of MFI's ROC Curve AUC for ABMR at 1 year of transplantation was 0.76, and AUC at 2 years was 0.74.

When the log(peak MFI) value increased by 1, the risk of ABMR increased by 2.84 times, but it was not statistically significant. ROC Curve AUC of peak MFI for ABMR at 1 year of transplantation was 0.74, and AUC at 2 years was 0.74.

**Conclusions:** In KTR with multiple DSA, the Sum of MFI value has a higher correlation with development of ABMR than the peak MFI value.