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**ANTI-ABO ANTIBODY- VERSUS ANTI-HLA ANTIBODY-INDUCED ANTIBODY
MEDIATED REJECTION IN ABO-INCOMPATIBLE KIDNEY TRANSPLANT
PATIENTS: RELATIVE INCIDENCE AND PHENOTYPE DIFFERENCE.**

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Objectives: Antibody-mediated rejection(AMR) in ABO incompatible(ABOi) kidney transplant(KT) patients can either be due to donor-specific anti-HLA antibody(DSA) or anti-blood group antibody. The relative frequency and possible phenotype difference of these two types of AMR in ABOi KT patients have not been reported.

Methods: Among 111 ABOi KT patients between 2007 and 2019 in our center, 15(13.5%) patients developed acute AMR diagnosed by indication biopsy. Since there is no histologic distinction between DSA- and anti-ABO-induced AMR, we assumed the causative antibody based on anti-ABO level and DSA at the time of AMR. Since low anti-ABO titer is unlikely to cause rejection and DSA can be undetectable in DSA-induced AMR by graft adsorption, AMR with lower anti-ABO titer and undetectable DSA is included in DSA-AMR group.

Results: Of these 15 cases of AMR, 5 were attributable to anti-ABO (higher anti-ABO titer, undetectable DSA). 8 cases were attributable to DSA (5 with lower anti-ABO titer and detectable DSA, 3 with lower anti-ABO titer and undetectable DSA). 2 cases (higher anti-ABO titer, detectable DSA) were regarded as undetermined. The onset of AMR was within 2 weeks in all cases and comparable between two types of AMR. Initial anti-ABO titer was not statistically different; median(range) 256(64-4096) in ABO-AMR and 64(16-256) in DSA-AMR. All the 5 patients with ABO-AMR had negative PRA, whereas 4 of 8 patients with DSA-AMR had positive PRA before KT, and one DSA-AMR patient had persistent DSA before KT and at the time of AMR. All the AMR were recovered by treatment and no graft was lost to rejection.

Conclusions: We conclude that a significant proportion of AMR in ABOi KT is caused by DSA, and clinical features and possible differential therapeutic approaches of these 2 types of AMR need to be explored by further studies.