

Higher Risk of Kidney Graft Failure in Patients with Rejection Episodes in the Presence of Anti-Angiotensin II Type 1 Receptor Antibodies



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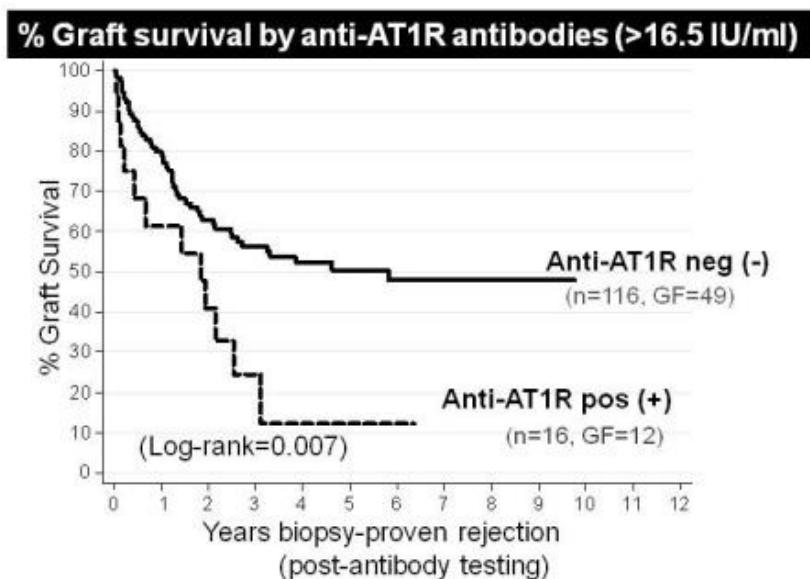
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Purpose: Anti-Angiotensin II Type 1 Receptor (AT1R) antibodies have been shown in patients with acute rejection of kidney and chronic rejection of heart transplants. In this study, we sought to determine if AT1R antibodies are associated with graft failure.

Methods: The study subjects were 132 kidney transplant recipients (transplanted between 1999 and 2007) having biopsy-proven rejection episodes. Sera from these patients collected during rejection episodes were tested for the presence of both anti-AT1R and HLA antibodies. The detection of AT1R antibodies was done using ELISA (cell based), and the detection of HLA antibodies with LABScreen Single Antigen. The anti-AT1R level was categorized into three: high (>16.5 IU/ml), moderate (16.5 - 9.5 IU/ml), and low (< 9.5 IU/ml).

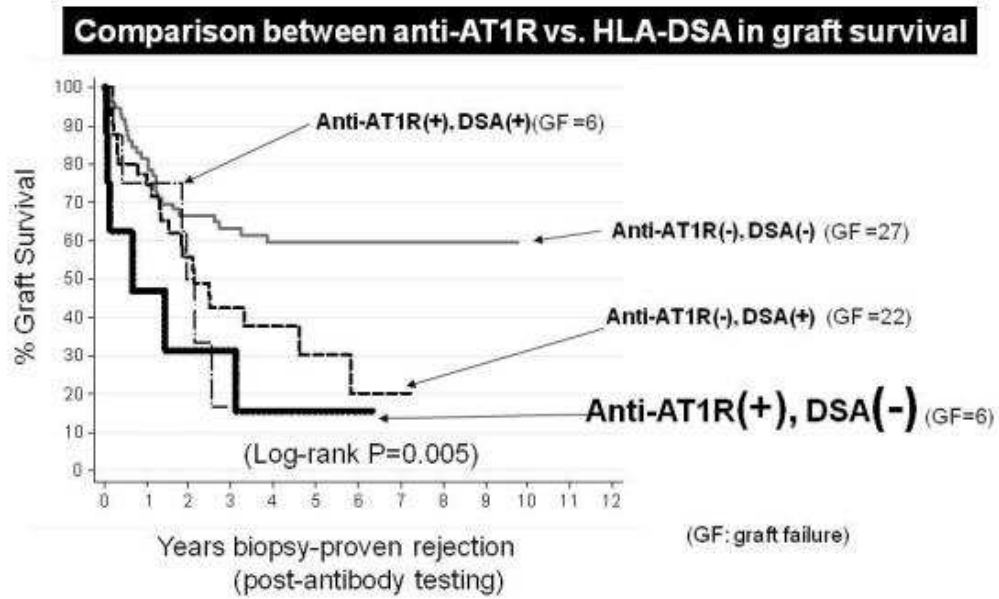
Results: The high and moderate AT1R antibody levels were observed in 24% (32/132) of the patients with rejection episodes (12% high and 12% moderate). Co-occurrence of positive HLA antibodies was 78%. In the patients with high anti-AT1R, (i) biopsy-proven chronic rejection was more prevalent than biopsy-proven acute rejection (50% vs. 31%); (ii) co-occurrence of HLA-donor specific antibodies (DSA) was higher than the patients with low anti-AT1R (50% vs. 33%). The graft survival of the patients with high anti-AT1R was the worst compared with the patients with moderate and low anti-AT1R (Log-rank P=0.007, Figure 1). Moreover, the lowest survival was observed with high anti-AT1R alone, followed by concurrence of high anti-AT1R and HLA-DSA, HLA-DSA alone and absence of both antibodies (P=0.005, Figure 2)

FIGURE 1



[Figure 1]

FIGURE 2



[Figure 2]

Conclusion: Anti-AT1R antibodies were detected in kidney transplant recipients with biopsy- proven rejection particularly those with chronic rejection. Markedly lower graft survival was noted in patients with AT1R antibodies. The lowest survival of the positive anti-AT1R patients was independent of HLA DSA antibodies.

Assigned speakers:

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