REJECTION IN HEART TRANSPLANTATION: MORE ANTIBODIES THAN JUST DSA

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Abstract:

Aim: The aim of our study was to determine the frequency of antibodies to non-HLA antigens for heart recipients diagnosed with rejection (AMR, ACR, BNR-T). Antibodies to non-HLA antigens have been implicated in the antibody mediated rejection (AMR) and acute cellular rejection (ACR) processes independent of and synergistic with de novo donor HLA specific antibody (DSA). In heart transplantation, recipients are often treated for biopsy negative rejection (BNR-T). **Methods:** Posttransplant sera from 21 heart recipients biopsied for cause were tested for DSA and for antibodies to: Precursor Endothelial Cell Antibody (IgM), Precursor Endothelial Cell Antibody (IgG), AT1R, Tubulin B, Perlican, PRKRIP1, EDNRA, FLRT2, and Vimentin 33. **Results:** 19 of 21 recipients were diagnosed with one of these 3 forms of rejection: 3=AMR, 2=ACR, 14-BNR-T. Of these, 6 (32%) had DSA while 15 (79%) had AT1R-ab. Other non-HLA antibodies detected at the time of rejection included: (13.7%) Precursor Endothelial Cell Antibody (IgM), (30.2%) Precursor Endothelial Cell Antibody (IgG), (15.8%) AT1R, (6.3%) Tubulin B, (14.7%) Perlican, (5.3%) PRKRIP1, (12.6%) EDNRA, (14.7%) FLRT2, and (7.4%) Vimentin 33. **Conclusions:** Our previous studies showed an increased negative impact of freedom for AMR and/or ACR when antibodies to both DSA and AT1R were present (p=0.001). These studies are consistent with the detection of multiple antibodies to non-HLA antigens during the rejection process. Monitoring for these antibodies may provide increased insight into the rejection process in the absence of de novo DSA, especially regarding BNR-T. $$graphic_{52463E84-168A-4DE2-9942-4A6D62197D99}$$

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