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Long-term follow-up of non-HLA and anti-HLA antibodies: incidence and importance in renal transplantation.

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Source

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Abstract

BACKGROUND:

Detection of antibody-mediated injury is becoming increasingly important in post-transplant patient care. The role of donor-specific anti-human leukocyte antigen (HLA) antibodies in kidney transplant damage is known, whereas the significance of non-HLA antibodies remains an unresolved concern. The aim of the study was to determine the presence and influence on renal function of non-HLA and anti-HLA antibodies in stable patients at 5 years after kidney transplantation.

METHODS:

We evaluated the antibodies in 35 consecutive patients with stable renal function at 5 years after transplantation.

RESULTS:

Pretransplant screening for donor-specific antibodies by CDC cross-matches was negative in all patients. Anti-endothelial cell antibodies (AECA), anti-angiotensin II type 1 receptor antibodies (anti-AT1R), and anti-endothelin receptor antibodies (anti-ETAR) were assayed as non-HLA antibodies. Non-HLA antibodies were observed in 12 (34%) patients, including AECA (n = 5; 14%), anti- AT1R (n = 6; 17%), anti-ETAR (n = 4; 11%), and both anti-AT1R and anti-ETAR (n = 3). Among 13 (37%) patients with anti-HLA antibodies, 7 also had both non-HLA antibodies: AECA (n = 1), anti-AT1R (n = 3), and anti-ETAR (n = 3). The antibody-negative group (n = 13) showed significantly better renal function than the antibody-positive group (non-HLA and/or anti-HLA; n = 22). Biopsy-proven acute rejection had occurred in 2 of 13 (15%) antibody-negative versus 8 of 22 (36%) antibody-positive patients. These preliminary data revealed an high prevalence of autoantibody and alloantibody production among stable patients at 5 years after kidney transplantation.

CONCLUSION:

Simultaneous production of these antibodies and their association with reduced renal function suggests that active humoral immune responses are poorly controlled by immunosuppression.