

Anti-angiotensin type 1 receptor antibodies associated with antibody-mediated rejection in patients without preformed HLA-donor-specific antibody.

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Abstract

INTRODUCTION:

Angiotensin II is a peptide hormone involved in the renin-angiotensin system (RAS). Anti-angiotensin receptor 1 (AT1R) antibodies are implicated in stimulating RAS and are suspected to have some adverse impacts on renal transplantation outcome.

METHODS:

From November 2009 to February 2012, 37 remaining sera from renal transplantation recipients with biopsy-proven antibody-mediated rejection (AMR) (n = 6), acute cellular rejection (ACR) (n = 23), and AMR + ACR (n = 8) without preformed human leukocyte antigen (HLA) antibodies were tested with anti-AT1R antibody assay. Forty-two control patients without rejection also were analyzed.

RESULTS:

The frequency of elevated anti-AT1R antibodies was higher in patients with AMR (n = 14) compared to controls (28.6% vs 4.9%, P = .03, OR = 8.0). It was also higher in patients with AMR + ACR (n=8) (37.5% vs 4.9%, P = .03, OR = 12.0). There was no difference in frequencies of elevated anti-AT1R antibody in patients with ACR.

CONCLUSION:

Anti-AT1R antibodies were suspected to be associated with occurrence of AMR without preformed HLA antibodies in renal transplantation. Further studies in a larger number of patients are needed.