

[128] Early and Higher Incidence of Cardiac Allograft Vasculopathy after Heart Transplantation Is Linked to Non-HLA Antibodies.

Markus J. Barten, Duska Dragun, Maja-Theresa Dieterlen, Robert Riede, Sara Klein, Stefan Dhein, Friedrich W. Mohr, Hartmuth B. Bittner. Clinic for Cardiac Surgery, Heart Center Leipzig, Leipzig, Germany; Clinic for Nephrology and Intensive Care Medicine, Campus Virchow Klinikum and Center for Cardiovascular Research, Charité-Universitätsmedizin Berlin, Berlin, Germany

Objective: Cardiac allograft vasculopathy (CAV) after heart transplantation (HTx) is a major therapeutic challenge, occurring in more than 50% of HTx recipients in the first years after transplantation. Antibodies against human leukocyte antigens (HLA) or non-HLA antigens like major histocompatibility complex class I-related chain A (MICA), angiotensin type 1 receptor (AT1R) or endothelin receptor A (ETAR) increasingly gain in importance as modulators of allograft function and survival.

Methods: Sera of 114 HTx recipients were screened post-transplantation by Luminex-technology for HLA and MICA antibodies and for antibodies against AT1R and ETAR by ELISA. For statistical analysis the gender, age, status of CAV (IVUS detection) and the number of blood transfusions was documented.

Results: CAV was detected in n=43 recipients. There was no significant difference in gender and number of blood transfusions between recipients with or without antibodies. HTx recipients developed antibodies against HLA class I or class II to a lower extend than against non-HLA antigens (Tab.1), especially against AT1R and ETAR.

Tab.1: Percentage of HTx recipients with positive antibody detection and percentage of CAV-positive recipients for HLA and non-HLA antigens.

antibody specificity	HTx recipients with positive antibody status [%] (n=114)	CAV-positive HTx recipients with positive antibody status [%] (n=43)
HLA class I	6.1 (n=7)	2.3 (n=1)
HLA class II	9.7 (n=11)	9.3 (n=4)
MICA (non-HLA)	11.4 (n=13)	13.9 (n=6)
AT1R (non-HLA)	33.3 (n=38)	30.2 (n=13)
ETAR (non-HLA)	45.6 (n=52)	37.2 (n=16)

CAV appeared in averaged 27.1% of recipients with antibodies against non-HLA antigens, whereas averaged 5.8% of the recipients with HLA antibodies developed CAV. Recipients with non-HLA antibodies developed CAV earlier (69.1mo) than recipients without these antibodies (80.1mo).

Conclusions: Non-HLA antibodies are connected to earlier and higher incidence of CAV after HTx. These results point out the necessity for monitoring HLA and non-HLA antibodies after HTx.

Keywords: Heart transplant patients; Monitoring; HLA antibodies; Antibodies

Session: Concurrent Session 18: Outcomes and Complications after Cardiac Transplantation (4:00 PM–5:30 PM)

Date/Time: Sunday, May 1, 2011 - 5:12 PM

Room: Room 204 A