

# Detection of Antibodies in Eluates of Immunoabsorption (IA) Causing Humoral Rejection in Patients after Solid Organ Transplantation



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Patients on the waiting list are periodically screened only for the presence of HLA-antibodies and a positive crossmatch is a contraindication to transplantation. Non-HLA antibodies were not tested before and after transplantation.

**Material and methods:** We studied 16 patients, who were treated with 97 immunoabsorptions (median 3 to 13 treatments, 1.3 l plasma volume exchanged) after humoral rejection (11 kidney Tx and 5 heart Tx). Antibodies in the 69 eluates were tested using 1. the complement-dependent lymphocytotoxicity (LCT), 2. the solid-phase enzyme-linked immunosorbent assay (ELISA) and 3. Luminex technology. We investigated antibodies against HLA-I/-II, non-HLA Glykoprotein (GP) IIB/IIIa, Ib/IX, Ia/IIa, AT1/2-receptor and ETAR-receptor. We parallelly investigated the antibody titer in the patient sera before and after IAs

**Results:** The antibody titer against HLA-antigens was 1:4 to 1:256, the antibodies against GP IIB/IIIa 1:1 to 1:32, GP Ib/IX negative to 1:32, GP Ia/IIa 1:1 to 1:16. We detected in 73 % (44/60) antibodies against AT1/2-receptor and in 78,3 % (47/60) antibodies against ETAR-receptor.

By the course of decreasing the antibody titer we can show the effectivity of the elimination of bound antibodies on the transplant. We could not find antibodies against GP IIB/IIIa, GP Ib/IX, GP Ia/IIa; HLA-DQ and DP (one case) in the sera before and after IAs. By using LCT before IA HLA-antibodies were detected in sera with 32% vs. 53 % in eluate and 50% vs. 100% by using ELISA and Luminex. In more than 50% of the examined probes we could not find HLA-antibodies in sera before IA. Patients with antibodies against AT1/2- and ETAR-receptors (38%) and other non-HLA-AB showed periodically rejection in comparison to HLA-AB.

**Conclusion:** In the antibody mediated humoral rejection the AB are bound on the transplant (HLA and non-HLA). The main problem is to detect these AB in the sera before and after IA. The sensitivity of the LCT in this situation is too low.

## Assigned speakers:

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