**Title:** Antibodies to Self Antigens (Collagen V & K-1 tubulin) in Pediatric Lung Transplant

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**Background:** Antibodies (Abs) to self antigens (Ags) collagen V (ColV) and K-1 alpha-1 tubulin (K 1T) are associated with primary graft dysfunction (PGD) and bronchiolitis obliterans syndrome (BOS) in adult lung transplant recipients. The natural history of autoimmunity and correlation to early posttransplant (txp) outcomes have not been explored in pediatric lung transplant (PLT).

**Methods:** PLT candidates enrolled in a Clinical Trials in Organ Transplantation in Children (CTOTC) study had testing for Abs to ColV and K 1T by ELISA, for Abs to donor mismatched HLA (DSA) by Luminex (MFI > 2000) and T cell activity against ColV and K 1T by ELISPOT (> 10 cells positive) pretxp and serially for 6 mo posttxp. Groups were compared on ordinal variables (Abs) using exact Mantel-Haenszel tests, categorical variables (ELISPOT) using exact Wilcoxon or Kruskal-Wallis tests, and on continuous variables using exact Spearman correlation coefficients.

**Results:** 36 PLTs had Ab data, while 24 had both Ab and ELISPOT data. Only one had pretxp DSA. Abs to self Ags were common pretxp, 33% (ColV) and 44% (K 1T). Patients with CF were more likely to have strongly+ ColV Abs (p = 0.03). Pretxp ELISPOTs for ColV and K 1T were not associated with diagnosis or pretxp ColV or K 1T Abs. Early posttxp ColV and K 1T Abs declined transiently (17% ColV, 36% K 1T at 0-2d posttxp). Abs were positive at least once posttxp (class I DSA 10/36; class II DSA 15/36; ColV 18/36; K 1T 30/36) Abs were often transient. Although PGD was common (PGD1: 4, PGD2: 7, PGD3: 9), pretxp ELISPOT and Abs were not associated with PGD. Full clinical data on rejection and long-term outcome is not yet available.

**Conclusions:** Pretxp Abs and cellular activity occur frequently in PLT. CF patients were more likely to have ColV Abs pretxp. Abs to self Ags were common posttxp but often transient. Preliminary data does not show correlation between humoral and cellular autoimmunity and neither was associated with early graft dysfunction. This may be due to confounding factors, like routine cardiopulmonary bypass. Further assessment of autoreactivity and correlation to outcomes in PTL is a primary aim of the ongoing CTOTC study.