P01

ANTI MICA (MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I RELATED CHAIN A) ANTIBODY, WHETHER TO TREAT OR AVOID IN RENAL TRANSPLANTATION?

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Introduction: Pre-transplantation anti-major histocompatibility complex class-I related chain A (MICA) sensitization is an uncommon event and its role in kidney graft evolution is not completely defined. Even when kidney allografts are well matched for HLA as in living related transplant and anti-HLA antibodies are not detected, graft rejection can still occur. Anti MICA antibody is reportedly associated with poor transplant outcomes and a high risk of acute and chronic rejection in renal transplantation.

Methods: A retrospective study of patients undergone living renal transplantation between years 2000-2014 was performed. Recipients were classified in two groups, pre-transplantation Anti MICA antibody positive group (n=17) and antibody negative comparison group (n=17). Patients with anti HLA antibodies were excluded and only isolated MICA positive patients were included in the study group. Both groups were comparable in recipient age, donor age, donor relation, HLA and immunosuppression.

Results: Patients with pre transplant MICA antibody positivity were associated with increased acute rejection rate as compared to comparison group (47% vs 11.7 %, p value= 0.02). Renal function in MICA positive group and comparison group were comparable over a mean follow up of 6.5 years (mean creatinine 1.58 vs 1.53 mg/dl). Rate of chronic rejection was same in both groups (5.8%). No patient loss or graft loss occurred in either group over mean follow up of 6.5 years.

Conclusions: Isolated Anti MICA antibody positivity is uncommon event. Pre transplant anti MICA antibody positivity is associated with increased acute rejection rates. However chronic rejection rates and renal function are comparable in both groups. Thus our study emphasizes that MICA antibody positive patients may require more aggressive immunosuppression. Role of desensitization has to be defined.

P02

ENHANCED IMMUNOPATHOLOGY EVALUATION OF HUMAN RENAL BIOPSIES USING MULTICOLOR FLOW CYTOMETRY AND CYTOKINE ANALYSIS: A FOCUS ON TRANSPLANTED KIDNEYS

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Introduction: Current histologic processing of renal biopsies provides limited information about immune mechanisms causing kidney injury and disease activity. To overcome this we developed a protocol to reduce a fraction of a renal biopsy to single cells for multicolor flow cytometry and for capture and quantitation of cytokines present in the biopsy. Using this technique we define new criteria for evaluating rejection and renal inflammation that is useful for directing therapy.

Methods: A third of a standard kidney biopsy core is reduced to a cell suspension amenable for multi-color flow cytometry without losing cells or epitopes of interest. The resulting supernatant is used for measuring cytokines with high-sensitivity Milliplex reagents on a Luminex platform. After analysis of hundreds of transplant biopsies we now generate clinically useful reports describing lymphocyte subsets, endothelial antibody and eculizumab binding and IL-6, IL-8 and IL-10 levels.

Results: A ratio of CD8+ to CD4+ T lymphocytes greater than 1.2 in transplanted allografts is associated with rejection, even before it is apparent by microscopy. Elevated numbers of CD45 leukocytes and higher levels of IL-6, IL-8 and IL-10 within the biopsy indicate more severe injury.

Peripheral blood T lymphocyte subsets do not correlate with those found within the renal allograft. In addition, lymphocytes within the kidney express variable degree of activation based on expression of CD69 and HLA-DR, while these markers are low or absent on peripheral blood lymphocytes.

Antibody binding to renal microvascular endothelial cells can be measured by cytometry and corresponds to antibody-mediated forms of allograft rejection. Eculizumab binding to endothelial cells suggests complement activation, which may be independent of bound antibody, or associated with it.

Conclusions: Assessment of leukocyte subsets, renal microvascular endothelial properties and measurement of cytokines within a renal biopsy enhance understanding of pathogenesis, provide disease activity markers and identify potential targets for therapy.

P03

RITUXIMAB IN DIFFICULT PAEDIATRIC NEPHROTIC SYNDROME: AN ACCOUNT FROM EASTERN INDIA

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Introduction: Reports on the utility of rituximab in difficult nephrotic syndrome (NS) have been varied. We retrospectively analyzed the outcome of rituximab, used in a multi centre cohort of difficult nephrotic syndrome (NS) from Eastern India.

Methods: Data was collected for all children with NS who received rituximab from May 2011 to Nov 2015. Steroid resistant (SRNS) and steroid dependent / frequently relapsing (SDNS /FRNS) were identified as per standard definition. Complete response (CR) for SRNS was defined as normalization of serum albumin and urinary protein creatinine ratio (UPCR) whereas for partial response (PR); 50% improvements in these parameters along with albumin at last follow up ≥ 2gm/dl. In cases of SDNS/FRNS; CR was defined as stoppage of steroid and absence of relapses for at least a year and PR as discontinuation of steroid without any relapses for at least six month or reduction in steroid threshold by at least 50%.

Results: 34 children (56 % male) were identified (SRNS =12, SDNS/FRNS =22). Among SRNS all had failed steroid (S), mycophenolate(M) as well as calcineurin inhibitor (CNI) except two who were CNI naïve prior to rituximab. Among the SDNS/ FRNS group, 11 (50%) children had failed all drugs (S, M, CNI & cyclophosphamide) and the rest were not exposed to CNI. Majority were minimal