[543] Successful Renal Transplantation of Recipients with Low-Titer, Donor Specific HLA Antibody and a Negative Flow Cytometry Crossmatch.

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A positive (pos) pretransplant (Tx) donor specific crossmatch (XM) has been a contraindication to transplant. Current testing methodologies allow for performance of sensitive flow cytometry crossmatches (FCXMs) and detection of IgG HLA antibodies (Abs) and their antigen specificities in patient sera by Flow PRA and Luminex assays. Data obtained by these assays must be evaluated to not only identify non-reactive recips but also recips displaying positive results without clinical significance. To understand the clinical correlation of these tests we retrospectively evaluated Flow-PRA, FCXM and the HLA Ab specificities of 200 pre-Tx sera from recips of deceased renal allograft donors transplanted after negative (neg) AHG-XMs. All recips with high titer ($\geq$ 1:256) pos-donor specific IgG HLA Abs and pos-FCXMs (N=10) had antibody mediated rejections (rejxns) and graft loss within 30 days post-Tx. Recips with 0% HLA Ab and neg-FCXMs (N=86) had acute cellular rejxns (frequency of 5% and 97.6% one and two year graft survivals). Recips with 0% HLA Ab but a pos-FCXM (non-HLA Ab), N=15, had a 13% acute cellular rejxn frequency with 100% one and two year graft survivals. Finally, recips with single antigen, bead reactive, class I and/or II HLA Abs but neg-FCXMs split into two groups: one group with low-titer donor-specific HLA Ab and a neg-FCXM (N=44) who had an 11% frequency of acute cellular rejxns with 95% one and two year graft survivals and; a second group with low-titer non-donor specific HLA Ab (N=45) who had 11% frequency of acute cellular rejxns and 95% one and two year graft survivals. These data suggest that recips with donor-specific IgG HLA Ab and pos-FCXMs are at high risk for rejection and early graft loss. Recips with low titer donor specific (or non-donor) HLA Ab but a neg-FCXM, experience resolvable cellular rejections with little graft loss. Most interestingly were those recips with no identifiable HLA Ab but pos-FCXMs (presumably non-HLA Ab) who did not appear to be at risk for early graft loss, that is, a 5% frequency of acute cellular rejections and a 97.6% graft survival at both one and two years post-Tx. Confirmation of these results should yield a better understanding of antibody and crossmatch clinical relevance.
Keywords: HLA antibodies; Flowcytometry crossmatching; Rejection; Graft survival

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