Title: CELLULAR OR HUMORAL SENSITIZATION INCREASES THE RISK OF DELAYED GRAFT FUNCTION AND ACUTE REJECTION IN RECIPIENTS OF EXPANDED CRITERIA DONOR KIDNEYS

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Body: The outcomes of kidney transplants from older donors are inferior to those with younger donors, but it is not clear if the outcomes are influenced by recipient alloreactivity. We hypothesized that patients at high immune risk, defined by pretransplant donor specific ELISPOT for interferon gamma > 25/300k cells and/or peak PRA>80%, may have particularly bad outcomes after transplantation of kidneys from older donors. We reviewed outcomes of 131 deceased donor recipients in whom pretransplant measurements of both ELISPOT and PRA were available. Expanded criteria donors (ECD) were defined by donor age $\geq$ 50 yrs; standard criteria donors (SCD) by age < 50 yrs. Population characteristics: age 48.3$\pm$11.4 yrs, 62% male, 53% African American, HLA mismatches 4.0$\pm$1.9. High risk patients included 46 with high ELISPOT alone, 7 with high PRA alone, and 3 with both. The incidence of delayed graft function (DGF), acute rejection (AR) and AR after DGF (DGF+AR) are shown in the figure.[figure 1]
AR occurred in 32% of high risk ECD recipients vs 9% in low risk/SCD ($p<0.001$). DGF occurred in 27% of high risk/ECD recipients vs 14% in low risk/SCD ($p=0.014$). Logistic regression showed that the combination of high risk status and ECD increased the risk of AR (odds ratio 1.7, $p=0.007$), and DGF+AR (odds ratio 2.1, $p=0.036$) independent of recipient age, gender, ethnicity, and HLA mismatch. The results show that cellular or humoral presensitization magnify the adverse effects of advanced donor age. Caution should be used in offering ECD kidneys to patients with cellular or humoral presensitization. In the absence of presensitization, recipients of ECD kidneys have outcomes similar to those of SCD kidneys