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Abstract Title: Optimizing Immunosuppression For Elderly Kidney Transplant Recipients

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Body: Elderly recipients older than age 50 have increased 3-year rates of post-transplant diabetes (17% vs 4% compared to those younger than 30). This study examines the relative impact of steroids, calcineurin inhibitors, anti-proliferatives and induction therapies on the risk of post-transplant diabetes, rejection and graft loss.

Methods: A total of 13,668 kidney-only recipients with no prior diabetes, transplanted in 2003-2007, aged 50 or more, and reported to the Organ Procurement Transplant Network were included in the study. Patients not receiving cyclosporine (CsA) or tacrolimus (Tac) as a calcineurin inhibitor and mycophenolate (MMF) or azathioprine (Aza) as an antiproliferative were excluded. Steroid sparing (20.9%), withdrawal (12.8%), and delayed administration (4.7%) was defined as reported maintenance steroid on the discharge and follow-up records. Time to post-transplant diabetes was defined as the follow-up date where diabetes was first reported. Steroid or antibody-treated rejection were defined by follow-up dates where rejection was reported or steroids or antibody were given as rejection treatment. Multivariate Cox proportional hazards was used to define the risk of diabetes, rejection and graft loss after adjusting for confounding recipient and donor factors.

Results: Tac was administered to 86%, MMF to 99.1% and induction therapy to 76.8%. Steroid sparing decreased the risk of post-transplant diabetes by 35% and Tac increased the risk by 60%. Delayed steroid administration (follow-up maintenance steroid but no steroid at discharge) was associated with a 3-fold increased risk of rejection (compared to patients with steroid indicated on both discharge and follow-up records). Withdrawal (discharge but no follow-up record) of steroids was associated with a 3-fold increased risk of graft loss. Tac was associated with a 30% decrease in the risk of rejection and a 15% decreased risk of graft loss.

Conclusion: These results indicate steroid sparing is associated with a decreased risk of post-transplant diabetes in elderly recipients but may increase the risk of rejection and graft loss. Delayed administration and withdrawal of steroids may

be indicators of a complicated clinical course.