K. TRANSPLANTATION EPIDEMIOLOGY

EFFECT OF INITIAL IMMUNOSUPPRESSION ON LONG TERM KIDNEY TRANSPLANT OUTCOME IN IMMUNOLOGICAL LOW RISK PATIENTS

Laura Michielsen1, Arjan van Zuilen2, Bram Wisse2, Marianne Verhaar3, Elena Kamburova2, Henny Otten2, Luuk Hilbrands3, On behalf of the PROCARE Consortium

1Nephrology, Radboud University Medical Center, Nijmegen, Netherlands, 2Laboratory of Translational Immunology, University Medical Center Utrecht, Utrecht, Netherlands and 3Nephrology and Hypertension, University Medical Center Utrecht, Utrecht, Netherlands

INTRODUCTION AND AIMS: Few studies have evaluated the effect of different immunosuppressive strategies on long term kidney transplant outcomes. Moreover, as they were usually based on historical data, it was not possible to account for the presence of pretransplant donor-specific HLA antibodies (DSA), a currently recognized important risk marker for impaired graft survival. The aim of this study was to evaluate the influence of frequently used initial immunosuppressive therapies on graft survival after first kidney transplantation in patients without pretransplant DSA.

METHODS: We performed a retrospective analysis on the PROCARE cohort, a Dutch multicenter study including all transplantations performed in the Netherlands between 1995 and 2005 with available pretransplant serum (n=4770). All sera were assessed for the presence of DSA by a Luminex single antigen bead assay. 1025 patients were excluded because of retransplantation (n=453), the presence of pretransplant DSA (n=287) or both (n=275).

RESULTS: In the remaining cohort three regimes were used in more than 200 patients: cyclosporine/prednisone (n=548), cyclosporine/MMF/prednisone (n=1421) and tacrolimus/MMF/prednisone (n=992). Adjusted analysis revealed no significant differences in 10-year death-censored graft survival between patients on cyclosporine/prednisone (78%) compared to patients on cyclosporine/MMF/prednisone (83%, p=0.20) or tacrolimus/MMF/prednisone (79%, p=0.45). However, the 1-year rejection-free survival censored for death and failure unrelated to rejection in patients without induction therapy was significantly higher for tacrolimus/MMF/prednisone (80%) compared to cyclosporine/MMF/prednisone (67%, p<0.0001) and cyclosporine/prednisone (63%, p<0.0001). For patients with induction therapy (almost all on triple therapy), no differences in 1-year rejection-free survival were observed between patients on cyclosporine/MMF/prednisone or tacrolimus/MMF/prednisone (77% vs. 78%).

CONCLUSIONS: In conclusion, this data suggests that in immunological low risk patients (first transplantation, no DSA) excellent long term kidney graft survival can be achieved irrespective of the type of initial immunosuppressive therapy (cyclosporine or tacrolimus; with or without MMF), despite differences in the incidence of acute rejection in patients without induction therapy.