**Mood Disturbance in Kidney Transplant Recipients: Prevalence and Predictors**

**Background:** Mood disturbance following kidney transplantation is a significant morbidity for many patients, although the actual prevalence is ill-defined (and almost certainly it is under-diagnosed), and the underlying drivers are largely unknown.

**Method**: We approached 230 renal transplant recipients in an entirely unselected fashion other than a minimum of 12 months post transplantation and without clinically apparent cotemporaneous acute medical illness. They were asked to fill in 2 simple questionnaires: the PHQ-9 as a measure of symptoms of anxiety, and the GAD as a measure of depressive symptoms. All patients agreed to the survey, and we received 212 complete responses which formed the basis for the analysis. Relevant clinical and demographic information was retrieved from the patients’ electronic records.

**Results**: Patients were 52.2±13.6 years of age, with 58% male and 30% non-Caucasian. Median time post-transplant was 63 months, mean eGFR was 46±18 ml/min, 9% were re-transplants, 75% were tacrolimus-treated; 21% experienced prior acute rejection.

Both PHQ-9 and GAD scores were non-normally distributed (median: 4 [IQR: 1-10) and median 2 [IQR: 0-8] respectively). The PHQ-9 and GAD scores were therefore dichotomised, assigning patients into either “none to mild” (0-10) or “moderate to severe” (>10) anxiety/depression. Defined in this way, moderate to severe anxiety and depression were seen in 24% and 18% of patients respectively.

Both anxiety and depression scores were significantly higher in females (p=0.003 for both); patients who had received multiple transplants had a higher GAD scores (median: 5 vs. 2, p=0.026), although this comparison did not reach significance for the PHQ-9 score (median: 10 vs. 4, p=0.057). A significant negative correlation between the GAD score and patient age was also detected (p=0.015).

On multivariable analysis (non-parametric binary logistic regression), re-transplanted patients were at significantly higher risk of moderate-severe anxiety and depression (OR: 2.89; p=0.035 and OR: 3.79; p=0.013 respectively). Female gender was independently associated with GAD score (OR=2.47; p=0.018). Older age was associated with moderate-severe anxiety (p=0.029), but with a “U-shaped” relationship with anxiety higher between ages 45-59 but then lower in older patients. No other predictor variables demonstrated independent associations, including tacrolimus levels in a subgroup analysis of tacrolimus-treated patients.

**Conclusion**: It is likely that multiple ‘general’ psycho-social factors drive anxiety and depression in kidney transplant recipients, but we believe that transplant-specific factors are also important and understudied. It is illuminating that the ‘standard’ biological predictors (such as renal function, rejection, medication and many other transplant-associated demographics) either showed no association with symptoms of anxiety and depression, or showed only weak and non-modifiable associations (age, sex and retransplantation). We therefore believe that more detailed ‘transplant-specific’ psychological evaluation be offered to patients, and that improvements in the mood disturbance experienced by many patients will come from addressing the ‘psychology’ of transplantation, rather than its ‘biology’.