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Renal transplantation – From childhood to adulthood

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The difficulties inherent in transition from paediatric to adult units are universal to all chronic diseases in paediatric age. The transfer of responsibility from the parents to the patient; a new doctor-patient relationship; different facilities, even a medical team less sensitive to this issue or with no expertise in the different aetiologies of paediatric diseases contribute to this critical situation. Chronic kidney disease (CKD) is no exception. In renal transplant recipients particularly, these factors can result in non-adherence to appointments or prescriptions and ultimately loss of the allograft. The impact of this situation on patients' renal and vital prognosis is presumably dramatic, but data are still internationally and nationally sparse.

We evaluated all paediatric transplant recipients (n=45) who have been transferred to our adult unit since 2000 after reaching the age of eighteen years old, in order to establish transplant specificities; adherence to medical prescription, and both kidney and vital outcomes.

Mean age was 24.1±4.5 years; 54% were male. Concerning CKD aetiology, 40% of the patients had uropathies (83% congenital abnormalities of the kidney and urinary tract and 17% neurologic uropathies) followed by glomerulopathies in 36%; cystic diseases in 7% and the remaining 18% congenital vascular complications, metabolic diseases or renal tumours. The mean age at diagnosis was 7.5±5.5 years; they began renal replacement therapy at 13.1±3.5 years old and were on the waiting list for kidney transplantation for 13.3±2.6months. All patients received induction therapy (basiliximab in 87%, thymoglobulin in 13%) and they were all on corticotherapy, mycophenolate mofetil and a calcineurin inhibitor.

During the 5.3±4.3 years follow-up in adult transplant unit, Glomerular Filtration Rate (GFR) dropped 4.32±3.65 ml/min/1.73m2/year. One patient died due to infectious complications and nine patients (20%) lost their graft. Considering this last group, it is relevant to mention that four of these patients were transferred to the adult unit with GFR already below 30 ml/min/1.73m^2.

In terms of adherence to prescription, we based our evaluation on blood levels of calcineurin inhibitors and considered non-adherent all patients with three measurements below the targets. We verified this condition in 29% (n=13) of the patients. Of the non-adherent patients, 39% lost their graft. In contrast, only 12.5% of the patients who were adherent to prescription lost their graft. This implies a relative risk of 3.08 in non-adherent patients.

Our work highlights the high non-adherence to therapy that exists in this age group – almost one third in our series – and the implications in the risk of graft loss. Despite the small number of patients, these conclusions should alert and sensitize all nephrologists. It justifies the implementation of a structured transition, probably in a step-by-step model with a strong articulation between paediatric and adult units. We believe that a transitional period of follow-up by a multidisciplinary team of professionals from the paediatric and adult teams may be advantageous.

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