Assessment of Predictive Factors of Urological Complications in a Consecutive Series of 738 Renal Transplants at a Single Centre

Introduction and Objective: Urological complications (UCs) after renal transplantation (RT) may increase morbidity, delay graft function, and occasionally lead to graft. We analyze the incidence of UCs and their impact on long-term graft and patient outcomes. We also assessed donor and recipient variables to identify significant risk factors for UCs.
Materials and Methods: We retrospectively analyzed a series of 738 RTs performed at our centre between November 1998 and July 2010. Renal grafts were obtained from living-related donors in 20 and from cadaveric donors in 718 cases. Dual transplants were 35. A Lich-Gregoire uretero-vesical anastomosis over a ureteral stent was carried out in all cases. Graft recipient and donor characteristics, perioperative variables, occurrence and type of complications, graft and patients outcomes were recorded in a database. Univariable and multivariable logistic regression analysis was performed to identify risk factors for UCs. Survival curves were generated using the Kaplan–Meier method.
Results: With a median follow-up of 4.8 years (IQR 2.5-7.7), 100 UCs in 91 patients were observed: 30 ureteral obstruction, 14 ureteropelvic junction obstruction, 17 urinary leaks, 32 lymphoceles and 7 surgical wound complications. Urinary leaks were the earliest complications to be detected after RT (17.5 days on average). Univariable analysis showed a significant association between UCs and: donor age $\geq$50 years (p=0.03), recipient age $\geq$50 years (p=0.02), delayed graft function (p=0.04), dual transplant (p=0.002) and serum creatinine at 6 months $\geq$2mg/dl (p=0.01). At multivariable analysis only dual transplant confirmed a significant association with UCs (OR 2.6; IC95% 1.14-5.92). Overall, graft failure occurred in 12 patients with UCs. Three patients died for a cause that was not correlated with the UC. Five-year graft and patient survival in subjects with UCs was 88.9% and 98.7%, respectively.
Conclusions: The incidence of UCs at our centre is similar to that reported in literature. Dual transplant was the only independent predictive variable associated with the onset of UCs. No significant reduction in graft and patient survival was observed in patients with UCs. In our experience a timely diagnosis and adequate treatment of UCs seem to avoid a significant impact on graft and patient outcomes.