The Importance of Slow and Delayed Graft Function vs. Immediate Graft Function on Cadaver Renal Transplant Outcomes

Introduction and Objective: According to the initial graft function, kidney transplant patients could be divided into three groups: immediate graft function (IGF – postoperative day 5 serum creatinine < 3 mg/day), slow graft function (SGF – day 5 creatinine >3mg/dl, no dialysis) and delayed graft function (DGF – day 5 creatinine >3mg/dl and dialysis). Delayed graft function is a common complication in cadaver kidney transplants sometimes with an arbitrary definition. There is disagreement about the impact of slow and delayed graft function on renal transplant outcomes. Our study was designed to assess the impact of the above three categories in transplant outcomes, and factors involved in first days graft function such was donor age and additional vascular reconstruction.
Materials and Methods: From June 1997 until July 2011, 1232 renal transplantations (960 living and 272 cadaver, 1169 adults and 63 pediatric transplants) with an average of 85/year (116 in 2007), were performed in our center. A total of 105 cadaver transplants entered in our study and renal grafts developed function as follows: 72 transplants were IGF, 21 were SGF and 12 DGF. Acute rejection episodes (AR), serum creatinine level and graft survival were analyzed three months, six month and one year after surgery. Young donors and old donors (the edge of 60), normal pedicle and reconstructed pedicle were considered.
Results: SGF patients showed worse results considering acute rejection, creatinine level and graft survival in comparison with IGF but better than DGF group. Donor age and additional vascular reconstruction did not significantly modify the outcomes. One year graft survival was better in IGF group than other two groups. Creatinine was worse in SGF group than IGF group – 1.9±0.7 mg/dl vs. 1.3±0.7 mg/dl, but better than DGF group – 2.5±0.5 mg/dl at 12 months, AR rate was 19.44% (14) in IGF group, 38.09% (8) in SGF group and 58.33% (7) in DGF group.
Conclusions: Slow graft function has to be considered in appreciation of graft dysfunction. Patients developing SGF have a worse outcome than patients with IGF but similar, or in special cases better than patients developing DGF. Despite they did not need dialysis, SGF patients show worse creatinine level and graft survival and higher acute rejection than IGF. Even mild to moderate post-transplant dysfunction can have a negative impact in graft function and survival.