

THE EFFECT OF CARDIOVASCULAR AND CEREBROVASCULAR COMORBIDITIES ON THE OUTCOMES OF AFTER KIDNEY TRANSPLANTATION

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Introduction

Kidney transplantation has been shown to reduce fatal and non-fatal cardiovascular events. However, the risk still remain higher than in the general population. The purpose of this study was to analyze cardiovascular and cerebrovascular events in kidney transplant recipients, and their relationship with the outcomes.

Materials and Methods

The study included patients who underwent kidney transplantation in our center between January 2005 and 2015. Their demographic features, clinical histories and laboratory findings in the last follow-up visits were obtained from medical records. We determined cardiovascular and cerebrovascular events after transplantation in all population.

Results

This study evaluated 402 consecutive patients (212 male, 190 female) who underwent successful kidney transplantation. The mean age of the participants was 43.3±11.2 years (range: 20-78). The mean transplantation durations were 5.39±3.9 years (range: 1-30). Renal replacement therapy was hemodialysis in 227 (59.6%) patients, peritoneal dialysis in 55 (14.4%) patients and consecutive peritoneal and hemodialysis in 45 (11.8%) patients. 14.2% (n=54) of all patients were pre-emptive transplant. The mean duration of hemodialysis was 59.6±55.2 months (range: 1-228) and the duration of peritoneal dialysis was 53.4±39.9 months (range: 2-168). Of transplantations, 54.6% was from living donor.

Of the patients, 206 (51.2%) were smokers. 107 (26.6%) persons had quit smoking before transplantation. 50 (12.4%) persons quit at the time of transplantation and 12 (3%) persons quit after transplantation. Thirty-seven (9.2%) recipients continued smoking after the surgery. There were family histories of hypertension in 189 patients (47%), diabetes mellitus in 110 (27.4%), obesity in 91 (22.6%), coronary artery disease in 79 (19.7%) and dyslipidemia in 87 (21.6%). The mean body mass indexes were 26.9±7.5 kg/m². Eighty-eight (23.5%) persons were obese and 126 (33.6%) were overweight. There were hypertension in 255 patients (64.2%), diabetes mellitus in 58 patients (14.6%), coronary artery disease in 23 patients (5.8%) and dyslipidemia in 71 patients (17.9%).

After kidney transplantation, myocardial infarction occurred in 11 (2.8%) patients, cardiac arrhythmia in 34 (8.5%) patients and congestive heart failure in 7 (1.7%) patients. Fifty-four (13.5%) patients underwent angioplasty while 7 (1.8%) patients underwent coronary stenting. Five (1.3%) patients underwent coronary by-pass operation. Only 3 (0.8%) patients had a stroke. Fifteen (3.8%) patients had a transient ischemic attack. Peripheral vascular disease was diagnosed in 3 of the patients (0.8%). The mean last serum creatinine values of the patients were 1.68±1.58 mg dL. 20 (5%) patients returned to dialysis due to graft loss. Nine (2.2%) patients died. There was no significant difference between the ratios of obesity, hypertension, diabetes mellitus, coronary artery disease, dyslipidemia, stroke, transient ischemic attack and peripheral vascular disease in recipients with and without graft loss. The ratios of coronary artery disease (11.1% vs. 0.5%, p<0.001) and stroke (22.2% vs. 5.4%, p=0.033) in patients who lost their lives were significantly higher compared with surviving patients. Other co-morbidities ratios were similar.

Conclusion

Cardiovascular and cerebrovascular morbidity and/or mortality, especially with functioning graft is considered a prevalent major negative outcome after kidney transplantation. Patients with high cardiovascular risk should undergo regular and careful investigations in post-transplant period.

