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Long-term Post-transplant Clinical Outcomes in Deceased Donor Kidney Transplantation: Report from a Single-center experience for 20 Years

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Objectives: We aimed to evaluate long-term clinical outcomes and factors related to the allograft survival in deceased donor kidney transplantation (DDKT).

Methods: Our study enrolled 422 patients who performed DDKT at Keimyung university Dongsan medical center between October 1997 and October 2017. We divided KT recipients into 2 groups as follow: non-graft failure and graft failure groups.

Results: Follow-up duration was 93 ± 71 months. Death-censored graft survival rates of 1-year, 5-years, and 10-years were 99%, 90%, and 73%. The causes of graft failure were rejection (67%), patient death with a functioning graft (18%), recurrent glomerulonephritis (5.2%), and infection (5.2%). Patient survival rates of 1-year, 5-years, and 10-years were 98%, 95%, and 91%. The causes of patient death were infection (61%), cardiovascular disease (11%), cerebrovascular accident (5.6%), and malignancy (2.8%). In multivariate analysis, serum creatinine levels at 1 year after KT, the incidences of acute and chronic rejection, viral infection, and the number of HLA mismatches were independent risk factors related with allograft failure in DDKT. As the HLA mismatch number increased, death-censored graft survival rate was significantly lower, but there were no significant differences according to the types of induction and maintenance immunosuppressant. Allograft function at 1 year after KT in the graft failure group was significantly lower than non-graft failure group. The incidences of acute and chronic rejection, viral and bacterial infections were significantly higher in the graft failure group compared with non-graft failure group.

Conclusions: Independent factors associated with low allograft survival rate were low allograft function at 1 year after KT, high rejection rate, HLA mismatches number, and viral infection. To improve the long-term allograft survival rate in DDKT, careful monitoring for allograft function during the early period after KT and HLA mismatches number, and the stable balance of immunologic status between rejection and infection should be required.