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Evaluation for the risk factors of donors affecting graft function in case of deceased donor renal transplantation in Korea

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Objectives: The transplant number using the kidney of the expanded criteria donor is increasing recently. The reality, however, is that prospective recipients are reluctant to receive such kidneys. So, it is necessary to identify donor's factors that affect the function of the graft kidney after transplant. Therefore, the authors conducted a study to find out the risk factors of donor that affect the function of graft kidneys after transplant in Korea

Methods: We analyzed the data of donors and recipients in cases of deceased donor kidney transplantation registered in the Korean Organ Transplantation Registry (KOTRY). KOTRY has retrospective medical records of donors and recipients of renal transplant performed from 2009 to 2012 and a prospective monitoring cohort of donors and recipients in renal transplant from May 2014. We performed linear regression analysis related to graft function after renal transplant with independent variables.

Results: The number of cases analyzed deceased donor kidney transplants was 3196. Among the donor's factors, age, body mass index, history of hypertension and serum creatinine at the time of donation had a statistically significant on graft function of recipient at 1 year after transplant. And we propose a formula made by donor's factors to predict the function of graft kidney at 1 year after transplant in case of deceased donor kidney transplantation in Korea.

Conclusions: The age, body size, history of hypertension and serum creatinine of the donor at the time of donation may be considered as significant factors affecting the function of the graft after 1 year of kidney transplantation.