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Survival and Clinical Benefits of Kidney Transplantation in the Elderly with Kidney Failure

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Objectives : Despite the rising prevalence of kidney failure (KF) among the elderly population, access to kidney transplantation (KT) remains limited due to concerns about life expectancy and higher risks of post-transplant complications. However, KT has been associated with improved survival and quality of life in younger populations, necessitating further investigation in the elderly.

Methods : Using the Korean National Health Insurance Service database, we identified KT recipients (KTRs) aged ≥ 65 years without previous history of major adverse cardiovascular events (MACE), cancer, or dementia within three years before KT between 2002 and 2022. Each KTR was 1:1 matched with dialysis and the general population (GP) controls based on age, sex, socioeconomic status, and comorbidities. Multivariable Cox regression analysis, with adjustment for comorbidities and residential area, was conducted to compare the risks of all-cause mortality, MACE, cancer, dementia, sepsis, and intensive care unit (ICU) admission, among the three groups.

Results : A total of 1463 elderly KTRs were identified. After exclusion and matching process, 817 individuals in each of the three groups were included in the study. During the follow-up period, Elderly KTRs had similar risks of MACE (adjusted hazard ratio [aHR], 1.19 [0.86–1.65]) and dementia (aHR, 0.54 [0.37–0.80]) compared to the GP controls but exhibited higher risks of all-cause mortality, sepsis, and ICU admission. Compared to dialysis controls, KTRs had significantly lower risks of all-cause mortality (aHR, 0.38 [0.31–0.48]), MACE (aHR, 0.40 [0.32–0.49]), dementia (aHR, 0.40 [0.30–0.54]), sepsis (aHR, 0.58 [0.45–0.74]), and ICU admission (aHR, 0.47 [0.39–0.57]), whereas cancer risk did not differ significantly.

Conclusions : Among elderly patients with KF, KT was associated with significantly lower risks of adverse clinical outcomes except for cancer, compared to dialysis controls. In addition, MACE and dementia risk were comparable to those of the GP controls. These findings support the consideration of KT as a viable treatment option for elderly patients.

Figure1_ForestPlot_Revised.jpg

