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Long-term outcomes of elderly living donors: a nationwide population-based study

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Objectives: The organ shortage for kidney transplantation has increased the demand for living kidney donors, and elderly donors have become more common. This study was to investigate the long-term outcomes of elderly kidney donors in a nationwide population-based study.

Methods: A total of 19,258 living kidney donors were recruited from the Korean National Health Insurance Service database between 2003 and 2016, and followed up for development of end-stage kidney disease (ESKD), myocardial infarction (MI) and stroke, and death. Cox proportional hazard model was used to estimate the adjusted hazard ratio (aHR) for study end-points compared to donors aged ≤30 years.

Results: ESKD developed in 474 living donors, MI in 369 donors, stroke in 493 donors, and death in 635 donors. The aHR for ESKD increased as the donors' age increased over 30 years; highest in donors aged 51-60 years, aHR 4.08 [95% confidence interval (CI), 4.01–4.16]; and second highest in donors aged >60 years, aHR 2.09 (95% CI, 2.01–2.18). The aHR for MI increased as the donors' age increased; highest in donors aged >60 years, HR 7.29 (95% CI, 4.48–11.87); and second highest in donors aged 51-60 years, aHR 5.04 (95% CI, 3.25–7.81). The aHR for stroke increased as the donors' age increased; highest in donors aged >60 years, HR 22.74 (95% CI, 12.35–40.83); and second highest in donors aged 51-60 years, aHR 13.06 (95% CI, 7.54–21.45). The aHR for mortality increased as the donors' age increased; highest in donors aged >60 years, aHR 11.45 (95% CI, 9.02–16.64); and second highest in donors aged 51-60 years, aHR 4.07 (95% CI, 3.22–5.87).

Conclusions: The risk of ESKD, MI, stroke and mortality increased with donors' age. Potential elderly donors should be thoroughly evaluated, and carefully followed up after donation.