ORIGINAL ARTICLE

Long-Term Consequences of Kidney Donation

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ABSTRACT

BACKGROUND

The long-term renal consequences of kidney donation by a living donor are attracting increased appropriate interest. The overall evidence suggests that living kidney donors have survival similar to that of nondonors and that their risk of end-stage renal disease (ESRD) is not increased. Previous studies have included relatively small numbers of donors and a brief follow-up period.

METHODS

We ascertained the vital status and lifetime risk of ESRD in 3698 kidney donors who donated kidneys during the period from 1963 through 2007; from 2003 through 2007, we also measured the glomerular filtration rate (GFR) and urinary albumin excretion and assessed the prevalence of hypertension, general health status, and quality of life in 255 donors.

RESULTS

The survival of kidney donors was similar to that of controls who were matched for age, sex, and race or ethnic group. ESRD developed in 11 donors, a rate of 180 cases per million persons per year, as compared with a rate of 268 per million per year in the general population. At a mean (±SD) of 12.2±9.2 years after donation, 85.5% of the subgroup of 255 donors had a GFR of 60 ml per minute per 1.73 m^2 of body-surface area or higher, 32.1% had hypertension, and 12.7% had albuminuria. Older age and higher body-mass index, but not a longer time since donation, were associated with both a GFR that was lower than 60 ml per minute per 1.73 m^2 and hypertension. A longer time since donation, however, was independently associated with albuminuria. Most donors had quality-of-life scores that were better than population norms, and the prevalence of coexisting conditions was similar to that among controls from the National Health and Nutrition Examination Survey (NHANES) who were matched for age, sex, race or ethnic group, and body-mass index.

CONCLUSIONS

Survival and the risk of ESRD in carefully screened kidney donors appear to be similar to those in the general population. Most donors who were studied had a preserved GFR, normal albumin excretion, and an excellent quality of life.

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