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Renal outcome in patients with horseshoe kidney

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Objectives: Horseshoe kidney (HSK) is a congenital disorder, which is usually asymptomatic but increases the risks of kidney stone and infectious disease. However, renal outcomes such as end-stage renal disease (ESRD) in patients with HSK remain unresolved.

Methods: 146 patients with HSK (aged ≥ 20 years) were included from two tertiary hospitals. Control individuals who conducted medical check-up were selected by matching age, sex, serum creatinine, hypertension, and diabetes. The hazard ratios (HRs) for the risks of ESRD and all-cause mortality were calculated after adjustment of multiple variables.

Results: During the median follow-up period of 9 years (maximum 32 years), the incidences of HSK-related complications were 51.7, 49.3, 37.8, and 26.6 per 10,000 person-years in obstruction, kidney stone, urinary tract infection, and cancer, respectively. The incidence of ESRD was 2.6 per 10,000 person-years. The risk of ESRD in patients with HSK was higher than in control individuals (HR, 7.4 [1.12–48.85]; $P=0.038$). All-cause mortality did not differ between two groups (HR, 0.5 [0.07–3.97]; $P=0.541$).

Conclusions: Patients with HSK are at risk of ESRD, which may be attributable to high incidence of complications. Accordingly, these patients should be regarded as having chronic kidney disease and require regular monitoring of kidney function in addition to potential complications.