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A US population-based cohort study reveals a change in the management of small renal masses in the 21st century with rates of nephron-sparing surgery on the rise and a corresponding decrease in the use of radical nephrectomy.

Analysis of the Surveillance, Epidemiology, and End Results (SEER) database showed that between 2001 and 2009, 6664 US patients aged 66 years or older were diagnosed with a primary renal tumour smaller than 4 cm – of these 90.0% were treated surgically.

During the study period, the proportion of patients receiving nephron-sparing surgery, comprising partial nephrectomy and ablation, increased from 21.5% to 49.0%.

By contrast, rates of radical nephrectomy in the same period decreased from 69.0% to 42.5%, with nephron-sparing surgery eclipsing radical nephrectomy in 2009 as the most common treatment for small renal cancers.

The proportion of patients receiving nonsurgical care remained stable between 2001 and 2009, at 9.5% and 8.5%, respectively.

After a median follow-up of 63 months, the 3-year and 5-year overall survival rates were 90% and 81%, respectively, for patients who received nephron-sparing surgery and 83% and 72% for those treated with radical nephrectomy. The corresponding rates in the nonsurgical management group were 73% and 61%.

Multivariate analysis, adjusting for patient and disease characteristics, showed that both nephron-sparing surgery and radical nephrectomy significantly reduced the likelihood of mortality from any cause compared with nonsurgical management, with adjusted hazard ratios (HR) of 0.55 and 0.76, respectively.

However, only nephron-sparing surgery was also significantly associated with a decreased risk of renal cancer-related mortality, with an adjusted HR of 0.47.

Highlighting the low number of cancer-related deaths (4.4 vs 31.8% from any cause), the team notes that the overall survival benefit associated with surgery may “reflect patient selection rather than a direct benefit of surgery.”

Researcher William Huang, from New York University Langone Medical Center in the USA, and colleagues observe in *JAMA Surgery*: “Although our findings support nonsurgical management as an acceptable treatment option for small kidney tumors in elderly patients or those with limited life expectancy, it appears that nonsurgical management of small kidney cancers remains uncommon and stable over time.”

“It is possible, however, that with heightened awareness of outcomes from studies such as ours, the use of nonsurgical management may increase.”

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