

Less radical tumor surgery can offer better long-term kidney function

February 7 2011

Patients with kidney tumours larger than four centimetres are much more likely to enjoy good long-term renal function if they undergo nephron-sparing surgery rather than radical nephrectomy, according to a study in the February issue of the urology journal *BJUI*.

Researchers from the Department of Urology at Johannes Gutenberg University in Mainz, Germany, studied 166 patients for up to 19 years, with a median follow up of five-and-a-half years. The participants were split into two groups - 81 "younger" patients up to 55 and 85 "older" patients aged 65 and over.

They found that, regardless of age, the patients who underwent radical nephrectomy (RN) were twice as likely to develop new onsets of chronic kidney disease than those who underwent nephron-sparing surgery (NSS).

"In RN the surgeon removes the whole kidney and the tissue around it, while in NSS the surgeon removes the cancer and part of the kidney surrounding it so that the patient still has some working kidney left after the operation" explains lead researcher Dr Frederik C Roos.

"Overall survival and complication rates were similar between the two groups, but long-term kidney function, which is very important to overall health and quality of life, was much better in the patients who had received NSS.

"Kidney tumours are more common in people in their 60s and 70s and increasing [life expectancy](#) means that more elderly patients will seek treatment for this condition.

"Our results show that 76% of older patients enjoyed good long-term kidney health with NSS as did 85% of younger patients.

"This is important as loss of kidney function is also associated with other health issues, including higher incidence of [cardiovascular disease](#) and cardiac deaths and reduced function in other organs."

Key findings included:

- The incidence of [chronic kidney disease](#) in younger patients (aged 23 to 55) was 31% after RN and 16% after NSS. In older patients (aged 65 to 84) it was 51% and 24% respectively.
- Overall survival (OS) rates did not differ significantly between surgical procedures. In the younger age group, the OS rates for NSS and RN patients were 92% and 91% at five years and 84% and 70% at 15 years. In the older group - where death from any cause was included - they were 72% and 89% at five years and 18% and 41% at 15 years.
- Complication rates were similar for both procedures, occurring in 35% of younger patients and 26% of older patients. They occurred in 16 NSS and 12 RN patients in the younger group and 10 NSS and 11 RN patients in the older group. There were no deaths as a result of the surgery.

"It is important to choose the type of surgery that patients receive for kidney tumours based on a number of factors, such as tumour features,

biological age, other illnesses and the patient's wishes and social support" says Dr Roos. "The patient's actual age should not be a factor in whether they receive the surgery.

"We believe that our research shows that, if the factors we have outlined above make NSS feasible, it is the best surgical option for younger patients and carefully selected older patients with a kidney tumour of four centimetres or more."

More information: Perioperative morbidity and renal function in young and elderly patients undergoing elective nephron-sparing surgery or radical nephrectomy for renal tumours larger than 4cm. Roos et al. *BJUI*. 107, pp554-561 (February 2011).
[DOI:10.1111/j.1464-410X.2010.09516.x](https://doi.org/10.1111/j.1464-410X.2010.09516.x)

Provided by Wiley

Citation: Less radical tumor surgery can offer better long-term kidney function (2011, February 7) retrieved 5 May 2024 from
<https://medicalxpress.com/news/2011-02-radical-tumor-surgery-long-term-kidney.html>

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