

Research suggests doctors should consider kidney-sparing surgery

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A study of almost 1,500 kidney cancer patients treated at Memorial Sloan Kettering Cancer Center suggests that surgery to spare as much kidney tissue as possible may improve overall survival in patients who also have reduced kidney function at the time their cancer is diagnosed. The finding is significant because both kidney cancer and decreased kidney function appear to be increasing.

"In patients who have the combination of kidney cancer and lowered kidney function, doctors should consider tissue-sparing surgery – versus complete removal – whenever it is technically feasible," said Joseph Pettus, M.D., lead author and now an assistant professor of urology at Wake Forest University School of Medicine. "Currently this option is significantly underused."

Reporting in the *Mayo Clinic Proceedings*, a peer-reviewed medical journal, researchers found that among patients having surgery for kidney cancer, those who also had severely impaired kidney function were almost three times more likely to die than patients with normal kidney function.

Impaired kidney function can sometimes be related to the cancer itself. But impaired function can also be caused or compounded by a variety of other factors, including diabetes, hypertension and vascular disease. Impaired kidney function itself – even without a diagnosis of cancer – is related to increased risk of death and hospitalization.

Surgery to remove a malignant tumor can further impair kidney function because the loss of kidney tissue affects kidney function over time. Researchers at Memorial Sloan Kettering had previously found that patients whose kidneys were completely removed were almost 12 times more likely to develop significantly impaired function in the remaining kidney than patients whose organs were partially removed.

The study involved an analysis of data from kidney cancer patients treated during a 10-year period. Pettus conducted the research with colleagues at Sloan Kettering before moving to Wake Forest.

The research was based on the hypothesis that kidney cancer patients with reduced kidney function prior to surgery would have lower survival rates than cancer patients with normal kidney function. The researchers excluded patients whose disease had spread to the lymph nodes or other parts of the body.

They found that median beginning levels of kidney function in all patients decreased during the 10-year period by about 10 percent. Compared to those with normal kidney function, patients who began with moderately reduced function were 150 percent more likely to die from any cause. Those with severely reduced function were almost three times (280 percent) more likely to die.

Pettus said the findings suggest that obesity and related diseases that affect kidney function may be contributing to the rising death rates from kidney cancer. Overall death rates increased 323 percent among kidney cancer patients between 1983 and 2002 – despite the fact that the disease is being detected earlier. He said that rising rates of kidney cancer – combined with a decline in kidney function – is almost a "perfect storm" scenario which may explain the decrease in survival, even among patients with early stages of kidney cancer.

"These findings underscore the importance of considering baseline kidney function when devising treatment plans for patients with kidney tumors," said Pettus.

He said the findings raise concerns that surgery may result in more medical harm than benefit to treating the cancer.

"Our data beg the question of whether patients with moderate to severe kidney disease and small tumors might be better managed through tissue-sparing techniques or a 'watchful waiting' approach," said Pettus.

"Completely removing the kidney may result in more harm than good, particularly in elderly patients with small tumors and other medical problems. For these patients, careful surveillance may be a legitimate option with surgery reserved for cases where the tumor increases in size."

Research has shown that for tumors that are 7 cm or less, partial removal of the kidney provides equal cancer control to total removal. However, partial removal accounted for only 7.5 percent of kidney surgeries between 1988 and 2002. And for smaller tumors, only 20 percent were treated with partial removal of the kidney.

Source: Wake Forest University Baptist Medical Center

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