Novel Treatment Strategy Saves Kidneys with Large Cancerous Tumors

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A multicenter team of investigators led by the University of California, San Diego School of Medicine has demonstrated, for the first time, the safety and efficacy of a targeted medication to shrink advanced kidney cancers prior to partial kidney removal and reconstruction. Their findings were published in the April 2010 online edition of *BJU International*.

"Our study offers compelling evidence that this combined medical-surgical approach for treating renal cell carcinoma both reduces the size of large kidney tumors and helps achieve kidney-preserving surgery in patients who were at high risk for end-stage kidney failure," said Ithaar Derweesh, MD, senior author and urologic oncologist at UC San Diego Medical Center and Moores UCSD Cancer Center.

Moores UCSD Cancer Center is an international destination for the treatment of advanced kidney disease.

The ability to surgically save the kidney following the destruction or removal of large tumors is challenging, yet highly desirable, in order to decrease the risk of kidney failure and protect

cardiovascular health, according to UCSD researchers.

Sunitinib, a drug that blocks the formation of blood vessels to cancer cells, was administered to patients prior to surgery. While the use of this drug is well documented in medical literature prior to total kidney removal, or radical nephrectomy, this study looked at its use prior to partial kidney removal. The average tumor size before treatment was 7.1 cm. Following treatment, tumor diameter was reduced by approximately 20 percent.

"The kidney is a sponge-like organ that is easy to remove completely but more difficult to repair and reconstruct," said Fred Millard, MD, urologic medical oncologist at Moores UCSD Cancer Center. "Our team wanted to find out if sunitinib can be used safely prior to partial nephrectomy. While these initial results are promising, this is a small study series and more investigation is needed."

Results showed that kidney-sparing surgery after medical therapy was feasible —confirmed by reduction of the primary tumor, complete re-section, and excellent preservation of renal function.

The incidence of kidney cancer is increasing. In 2009 it is estimated that 57,760 new cases of kidney cancer will be diagnosed and that 12,980 people will die from the disease in the United States. Approximately one third of kidney malignancies are discovered at an advanced stage.

"With this multidisciplinary approach at Moores UCSD Cancer Center, we are finding that we can save kidneys that could not previously be saved," said Derweesh, a national expert in single-incision laparoscopy. "This new data will set the stage for further research into advanced methods of nephron-sparing surgery."

Researchers for this paper included: Jonathan L. Silberstein, Frederick Millard, Reza Merazin, Ryan Kopp, Wassim Bazzi, Christopher J. DiBlasio, Anthony L. Patterson, Tracy M. Downs, Furhan Yunus, Christopher J. Kane and Ithaar H. Derweesh.

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