

Public release date: 19-May-2008

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Majority of kidney cancers diagnosed at earliest stage

Patients in the United States today are now much more likely to be diagnosed with smaller tumors, in the earliest, most treatable stage of kidney cancer than a decade ago, leading to a slightly higher survival rate, according to the results of a national study led by a UC San Diego Medical Center researcher.

Christopher J. Kane, M.D., chief of urology at UC San Diego Medical Center and the Moores UCSD Cancer Center, and a team of researchers, analyzed records of more than 200,000 kidney cancer patients described in the National Cancer Data Base to look at how kidney cancer presentation has changed over a twelve-year period. The National Cancer Database is sponsored by the American College of Surgeons and the Joint Commission on Cancer and includes information from hospital tumor registries in the U.S. The study will be published online for the May 2008 edition of *Cancer*.

The changes in kidney cancer presentation are visible nationally and quite dramatic. If you are diagnosed with kidney cancer today, it is more likely to be at the earliest stage I level as opposed to more advanced stage II, III or IV just a decade ago," said Kane, a surgeon who specializes in treating kidney and prostate cancers. The study also reveals a small but significantly higher survival rate for recently diagnosed kidney cancers. This is good news for the more than 50,000 kidney cancer patients who will be identified this year.

The analysis looked at kidney cancer data between 1993 and 2004. Findings reveal that stage I kidney cancers increased from approximately 43% in 1993 to 57% in 2004, but decreased in stages II-IV of the disease. The average size of the stage I tumors decreased from 4.1 cm in 1993 to 3.6 cm in 2003. Overall survival for all patients with kidney cancer increased 3.3% between 1993 and 2003. The 5-year survival rate for people with stage I kidney cancer is now 88% or better.

While the reason for the downward trend is not known with certainty, the low stage presentation of tumors appears to be due to the more widespread use of medical imaging such

as ultrasound, CT scans, and MRIs being conducted to evaluate other medical conditions. The cancerous growths, which often have not yet caused symptoms, are found unexpectedly as a result of these imaging tests. These incidentally detected masses are more likely to be benign, smaller, and when confirmed to be kidney cancer to have better rates of survival.

That we are seeing is that gynecologic or abdominal imaging to evaluate pain or other complaints is picking up other forms of disease such as kidney cancer," said Kane. The increased and widespread use of medical imaging in the United States is helping to diagnose cancer in its non-symptomatic stages when it is easier to treat successfully.

Kidney cancer is considered a silent killer rarely causing signs or symptoms in its early stages. In the later stages, kidney cancer symptoms may include blood in the urine, back pain, weight loss, fatigue and intermittent fever. Deaths due to kidney cancer account for about 3% of all cancer deaths in the U.S with approximately 12,890 deaths in 2007.

the message to patients is not to go out and request an ultrasound or CT scan," said Kane. Keep in mind that this is a rare form of cancer. However, if abdominal imaging is done and a mass or masses in the kidney are recognized, evaluation by an urologist is recommended."

The progression of a cancer is divided into four stages to describe how much a cancer has spread. The stage takes into account the size of a tumor, how deep it has penetrated, and whether it has invaded adjacent or distant organs or lymph nodes. Staging of cancer is important because the stage at diagnosis is the most powerful predictor of survival, and treatments are often changed based on the stage.

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Kane, senior author of the study, is a nationally recognized researcher and specialist in the diagnosis and minimally-invasive treatment of kidney and prostate cancer at the Moores UCSD Cancer Center. A leader in robotics and laparoscopic procedures, Kane is an expert in the treatment of kidney cancer, including laparoscopic nephrectomy and partial nephrectomy, procedures to remove one kidney or part of a kidney. Kane's recent kidney cancer research has also looked at renal masses and the differences in disease between men and women.

Founded in 1979, the Moores UCSD Cancer Center is one of just 39 centers in the United States to hold a National Cancer Institute (NCI) designation as a Comprehensive Cancer Center. As such, it ranks among the top centers in the nation conducting basic, translational and clinical

cancer research, providing advanced patient care and serving the community through innovative outreach and education programs.

In addition to Kane, authors of the Renal Cell Cancer Stage Migration: Analysis of the National Cancer Data Base paper are Katherine Mallin, Ph.D., (American College of Surgeons), Jamie Ritchey, M.D., M.P.H., (American College of Surgeons), Matthew R. Cooperburg (Department of Urology ,UC San Francisco), and Peter R. Carroll, M.D., (Department of Urology and Comprehensive Cancer Center, UC San Francisco).

Image of Kane and paper available upon request.
