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## **POOR KIDNEY FUNCTION LINKED TO HIGHER CANCER RISK**

### **Highlight**

- In a study of adults in Sweden, poor kidney function was linked with a higher risk of certain cancers, especially skin and urogenital cancers.

**Washington, DC (March 14, 2019)** — A new study has uncovered a modestly higher cancer risk in individuals with mild to severe chronic kidney disease, driven primarily by skin (non-melanoma) and urogenital cancers. The findings, which appear in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*, do not prove a causal link between kidney dysfunction and cancer but might be used to increase awareness among healthcare professional and patients, motivate lifestyle modifications if other cancer risk factors or family history are present, and justify more vigilant monitoring.

Kidney dysfunction leads to retention of metabolic waste products, which can have varying effects on diverse processes in the body. Some studies have indicated that kidney dysfunction may affect an individual's risk of developing heart disease, anemia, bone fractures, and possibly cancer.

To look for a potential link between kidney dysfunction and cancer, Hong Xu, MD, PhD (Karolinska Institutet, in Sweden) and her colleagues conducted a comprehensive analysis of the risk of cancer across the full spectrum of kidney function in a large representative population of Swedes aged 40 years and older with no prior history of cancer.

In the analysis of 719,033 adults who were followed for a median of 5 years, 64,319 cases of cancer (affecting 9% of participants) were detected throughout 3,338,226 person-years. (A person-year is the number of years of follow-up multiplied by the number of people in the analysis.) The relationship between kidney function and cancer incidence was U shaped. Compared with eGFR of 90-104 ml/min, lower eGFR strata associated with a higher cancer risk: an 8% higher risk for eGFR 30-59 ml/min and a 24% higher risk for eGFR less than 30 ml/min. After assessing biases, the researchers observed a sustained higher risk after 12 months follow-up for the incidence of skin (non-melanoma) and urogenital cancers.

“Establishing these associations do not prove causation, but evoke awareness and stimulate thinking on mechanisms, prevention, and screening opportunities,” said Dr. Xu. “From a public health point of view, these results may help health care policy makers to develop appropriate strategies for cancer screening and monitoring in the context of chronic kidney disease as well as help health service planning. From a research point of view, these results provide previously unknown associations—such as a higher skin cancer risk—and may stimulate further studies on the topic.”

Study co-authors include Kunihiro Matsushita, MD, PhD, Guobin Su, MD, Marco Trevisan, MSc, Johan Ärnlöv, MD, PhD, Peter Barany, MD, PhD, Bengt Lindholm, MD, PhD, Carl-Gustaf Elinder, MD, PhD, Mats Lambe, MD, PhD, and Juan Carrero, PhD.

Disclosures: Dr. Ärnlöv reports personal fees from lecturing fees for Astrazeneca, outside the submitted work. Dr. Lindholm reports grants, personal fees, non-financial support and other from Baxter Healthcare Corporation, during the conduct of the study; grants, personal fees, non-financial support and other from Baxter Healthcare Corporation, outside the submitted work. Dr. Matsushita reports grants and personal fees from Kyowa Hakko Kirin, personal fees from Akebia, outside the submitted work. Dr. Carrero, Dr. Barany, Dr. Elinder, Dr. Lambe, Dr. Su, Dr. Trevisan, and Dr. Xu have nothing to disclose.

The article, entitled “Estimated Glomerular Filtration Rate and the Risk of Cancer,” will appear online at <http://cjasn.asnjournals.org/> on March 14, 2019, doi: 10.2215/CJN.10820918.

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