

**EMBARGOED FOR RELEASE until November 12, 2015 – 5:00 PM (ET)**

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## **KIDNEY FAILURE AND ITS TREATMENT MAY IMPACT CANCER RISK**

*Study's findings point to the importance of cancer screening and prevention in patients with kidney failure*

### **Highlights**

- Risk of kidney and thyroid cancers was especially high when kidney failure patients were on dialysis.
- Conversely, risk of non-Hodgkin lymphoma, melanoma, lung cancer, and certain skin cancers was highest following kidney transplantation, likely due to immunosuppressant medications.

*Kidney failure is on the rise and currently afflicts an estimated 2 million people worldwide.*

**Washington, DC (November 12, 2015)** — For patients with kidney failure, poor kidney function and immunosuppressant medications may increase their risk of developing different types of cancer. The findings, which are published in a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN), suggest the need for persistent cancer screening and prevention in these patients.

People with kidney failure are at increased risk of developing different types of cancer, which might be due to a variety of factors related to their disease and the treatments they receive. Often these patients undergo intervals of dialysis followed by transplantation, and then they return to dialysis if the transplant fails. Understanding how these different exposures correspond to cancer risk can help inform cancer prevention and screening decisions for patients and can provide insights into the underlying causes of cancer.

To investigate, Elizabeth Yanik, PhD, ScM (National Cancer Institute) and her colleagues evaluated information on 202,195 kidney transplant candidates and recipients by linking the Scientific Registry of Transplant Recipients to various US population-based cancer registries. For a number of cancers, the team observed clear patterns of risk that corresponded to different treatment intervals. For example, risk of kidney and thyroid cancers was high across all intervals, but the risk was particularly heightened when individuals were on dialysis. Conversely, risk of non-Hodgkin lymphoma, melanoma, lung cancer, and certain skin cancers was highest following kidney transplantation and—for those who experienced it— prior to transplant failure. This may have been due to the

effects of immunosuppressant medications that are needed while living with a functioning kidney transplant.

These findings reveal that kidney dysfunction and immunosuppressant medications can have important effects on cancer incidence in patients with kidney failure.

“Our study indicates that the needs of individuals with end-stage renal disease, in terms of cancer prevention and cancer screening, will likely differ over time,” said Dr. Yanik. “Vigilance for kidney cancer and thyroid cancer may be of particular importance while these individuals are on dialysis. Extra consideration for screening for melanoma or lung cancer may be called for while taking immunosuppressant medications following a kidney transplant.”

In an accompanying editorial, Wai Lim, PhD (University of Western Australia) and Steven Chadban, PhD (University of Sydney) noted that “the epidemiologic insights provided by Yanik *et al.* may have important implications for the pathogenesis and mechanism of cancer development in patients.”

Study co-authors include Christina Clarke, PhD, MPH, Jon Snyder, PhD, MS, Ruth Pfeiffer, PhD, MA, and Eric Engels, MD, MPH.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Variation in Cancer Incidence among Patients with ESRD during Kidney Function and Nonfunction Intervals,” will appear online at <http://jasn.asnjournals.org/> on November 12, 2015.

The editorial, entitled “Cancer in ESRD: Clear on the Epidemiology, Hazy on the Mechanisms,” will appear online at <http://jasn.asnjournals.org/> on November 12, 2015.

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*Founded in 1966, and with nearly 16,000 members, the American Society of Nephrology (ASN) leads the fight against kidney disease by educating health professionals, sharing new knowledge, advancing research, and advocating the highest quality care for patients.*

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