ASN LEADING THE FIGHT AGAINST KIDNEY DISEASE

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Press Release

EMBARGOED FOR RELEASE until October 4, 2018 – 5:00 PM (ET)

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HIGH BLOOD LEVELS OF INFLAMMATORY MARKER LINKED WITH KIDNEY FUNCTION DECLINE IN HEALTHY ADULTS

Findings could lead to new insights on the causes of kidney disease.

Highlights

- In a multi-ethnic study of individuals without kidney disease, high blood levels of an inflammatory marker, sTNFR-1, were associated with greater kidney function decline over time.
- This association was independent of previously known risk factors for kidney disease progression and persisted across multiple sub-groups of participants.

Washington, DC (October 4, 2018) — A large multi-ethnic study of healthy individuals found that high circulating levels of an inflammatory marker are linked with long-term decline of kidney function. The results, which appear in an upcoming issue of the *Journal of the American Society of Nephrology* (*JASN*), may lead to new insights on the mechanisms behind the development of kidney disease.

Tumor necrosis factor receptor-1 (TNFR-1), which is known to contribute to inflammation and dysfunction in the endothelial cells that line blood vessels, is expressed by certain cells in the kidney. Studies previously demonstrated that blood levels of soluble TNFR-1 (sTNFR-1) are linked with kidney disease progression in individuals with established kidney disease. To assess sTNFR-1's role in kidney function changes in the general population, Pavan K. Bhatraju, MD, MSc (University of Washington School of Medicine) and his colleagues conducted a multi-ethnic study of 2548 adults with an average age of 61 years. Study participants were generally free of known kidney or heart disease at the start of the study, when sTNFR-1 levels were measured.

sTNFR-1 was associated with substantial differences in kidney function decline over time. Rates of decline over 10 years were nearly 4-times higher among people in the highest vs. lowest sTNFR-1 categories. This association was independent of previously known risk factors for kidney disease progression and persisted across multiple sub-groups of participants.

“Many people continue to progressively lose kidney function despite treatment with current medications. New treatments are urgently needed to help prevent or slow the loss of kidney function,” said Dr. Bhatraju. “Our studies identify a novel marker that is strongly related to kidney function decline over time in a large multi-ethnic cohort and suggest follow up studies are warranted to investigate the potential role of sTNFR-1 in the development of kidney function decline.”

Study co-authors include Leila Zelnick, PhD, Michael Shlipak, MD, MPH, Ronit Katz, DPhil, and Bryan Kestenbaum, MD, MS.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Association of Soluble TNFR-1 Concentrations with Long- Term Decline in Kidney Function: The Multi-Ethnic Study of Atherosclerosis,” will appear online at http://jasn.asnjournals.org/ on October 4, 2018, doi: 10.2215/ASN.2018070719.

Since 1966, ASN has been leading the fight to prevent, treat, and cure kidney diseases throughout the world by educating health professionals and scientists, advancing research and innovation, communicating new knowledge, and advocating for the highest quality care for patients. ASN has nearly 20,000 members representing 124 countries. For more information, please visit www.asn-online.org or contact the society at 202-640-4660.

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