ASN LEADING THE FIGHT AGAINST KIDNEY DISEASE

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Press Release

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CERTAIN ENVIRONMENTAL POLLUTANTS MAY CONTRIBUTE TO POOR KIDNEY HEALTH

Highlight

- In an analysis of all relevant studies, exposure to environmental toxins called per- and polyfluoroalkyl substances was linked to worse kidney function and other signs of kidney damage.

Washington, DC (September 13, 2018) — Certain highly pervasive environmental pollutants may have a variety of negative effects on kidney health, according to an analysis of all relevant studies published on this topic to date. The findings, which appear in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (*CJASN*), point to the need for additional research to clarify and address these effects.

Per- and polyfluoroalkyl substances (PFAS) are a large group of manufactured non-biodegradable compounds used in industrial processes and consumer products, and they are everywhere in the environment. Humans are exposed to PFAS through contaminated soil, food, water, soil, and air. Recently, they have been detected on military bases, where they are used in aqueous fire-fighting foams, as well as in public water supplies from industrial contamination and in agricultural and crop products.
To investigate whether PFAS exposure may be affecting kidney health, John Stanifer, MD, MSc (Duke University) and his colleagues searched the medical literature for relevant studies. “The kidneys are very sensitive organs, particularly when it comes to environmental toxins that can get in our bloodstream. Because so many people are now exposed to these PFAS chemicals, and to the newer, increasingly-produced alternative PFAS agents such as GenX, it is critical to understand if and how these chemicals may be contributing to kidney disease,” he said.

In the 74 studies identified, there were many adverse outcomes linked to PFAS exposure, including worse kidney function, derangements in the proximal tubules (the resorptive structure of the kidney), and dysregulated metabolic pathways linked to kidney disease. It was also particularly concerning that children are exposed to these chemicals to a greater extent than adults.

“By searching all the known studies published on the topic, we concluded that there are several potential ways in which these chemicals can cause kidney damage,” said Dr.

Stanifer. “Further, we discovered that there have already been multiple reports suggesting that these chemicals are associated with worse kidney outcomes.”

Study co-authors include Heather Stapleton, PhD; Tomokazu Souma, MD, PhD; Ashley Wittmer, BS; Xinlu Zhao, BS; and L. Ebony Boulware, MD, MPH.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Perfluorinated Chemicals as Emerging Environmental Threats to Kidney Health: A Scoping Review,” will appear online at http://cjasn.asnjournals.org/ on September 13, 2018.

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