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KIDNEY-BRAIN CONNECTION MAY HELP DRIVE CHRONIC KIDNEY DISEASE

Study's findings suggest new targets to preserve kidney function

Highlights

- Salt intake accelerated kidney scarring in rats with chronic kidney disease by activating a brain-kidney connection called the renin-angiotensin axis that interlinks the damaged kidney and brain by afferent and efferent sympathetic nerves.
- Targeting these nerves reduced salt-induced kidney scarring.

Washington, DC (January 29, 2015) — In addition to affecting blood pressure, high-salt intake can promote kidney function decline in patients with chronic kidney disease. A study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN) reveals that the effects of salt consumption on the kidneys are mediated at least in part by brain-kidney interactions. The findings suggest new strategies for protecting patients' kidney health.

While it's known that salt intake can contribute to the progression of chronic kidney disease, the mechanisms involved are unclear. Fan Fan Hou, MD, PhD, Wei Cao, MD, and Aiqing Li, PhD (Southern Medical University, in Guangzhou, China) wondered whether interactions between the kidneys and the brain might be involved. Their research team studied the brain-kidney connections in rats with kidney disease.

The investigators found that salt intake accelerated kidney scarring in the animals by activating a brain-kidney connection called the renin-angiotensin axis that interlinks the damaged kidney and brain by afferent and efferent sympathetic nerves. Targeting these nerves reduced salt-induced kidney scarring.

"These findings provide novel targets to fill a therapeutic void in preventing relentless progression of chronic kidney disease," said Dr. Hou. The investigators noted that kidney scarring, or fibrosis, is the final common pathway for most categories of chronic kidney disease and culminates in kidney failure.

Study co-authors include Liangliang Wang, MD; Zhanmei Zhou, MBBS; Zhengxiu Su, MMed; Wei Bin, MBBS; and Christopher Wilcox, MD, PhD.

Disclosures: The authors reported no financial disclosures.

The article, entitled “A Salt-Induced Reno-Cerebral Reflex Activates Renin-Angiotensin Systems and Promotes CKD Progression,” will appear online at <http://jasn.asnjournals.org/> on January 29, 2015.

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