

Impaired kidney function linked to cognitive decline in elderly

September 28 2009

A new study published in the medical journal *Neurology* suggests that impaired kidney function is a risk factor for cognitive decline in old age.

The study, conducted by researchers at Rush University Medical Center, found that poor [kidney function](#) was linked specifically with cognition related to [memory](#) functions. Damage to one of these functions, episodic memory, which retrieves memories of time, place, associated emotions and other contextual knowledge, is often the earliest sign of Alzheimer's disease.

"Given the dearth of modifiable risk factors for age-related [cognitive](#) decline, these results have important public health implications," said Dr. Aron Buchman, a neuroscientist in the Rush Alzheimer's Disease Center. "Further work to understand the link between kidney function and the brain may provide new strategies for preventing memory loss in elders."

Buchman said the findings suggest that there are common disease processes that affect both the brain and the kidneys in the elderly, and hypothesized that underlying vascular problems, such as diabetes and hypertension, may account for the association between kidney problems and [cognitive decline](#).

The study analyzed data for 886 older adults who participated in the Rush Memory and Aging Project, a group of community-dwelling seniors with a mean age of 81, all of them initially free of dementia. The participants were examined annually for up to six years to track changes

in cognition over time. Cognitive assessments included multiple tests that were summarized as a composite measure of overall cognition and of five individual cognitive abilities.

The individual cognitive systems assessed were visuospatial ability; perceptual speed, or the ability to quickly and accurately compare letters, numbers, objects, pictures or patterns; semantic memory, related to meaning, understanding and other concept-based knowledge; working memory, which temporarily stores and manipulates information; and episodic memory.

Ruling out the influence of factors like aging and medications, which can affect cognition, the researchers found that poor kidney function, assessed at the beginning of the study, was linked with a more rapid rate of decline in cognition over the next several years - not in visuospatial ability or perceptual speed, but in three specific areas: episodic, semantic and working memory.

The rate of decline in cognition was equivalent to that of a person seven years older at baseline, Buchman said.

Source: Rush University Medical Center ([news](#) : [web](#))

Citation: Impaired kidney function linked to cognitive decline in elderly (2009, September 28) retrieved 27 April 2024 from <https://medicalxpress.com/news/2009-09-impaired-kidney-function-linked-cognitive.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.