

A pounding heart may be dangerous for some kidney patients

January 13 2011

Among older adults with a recent heart attack (myocardial infarction), those with lower levels of kidney function are less likely to take their medications as prescribed, according to a study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (CJASN).

"Several types of medications have proven benefit for preventing recurrent heart attacks, yet only about half of people with heart disease take their medications correctly," comments Wolfgang C. Winkelmayer, MD, ScD (Stanford University School of Medicine, Palo Alto, CA). "Adherence was lower in patients with more pronounced kidney dysfunction."

The researchers studied 2,103 patients aged 65 or older with a recent heart attack. Pharmacy insurance claims records were used to determine the percentage of days that patients actually had their prescribed medications.

The results showed low long-term adherence rates for three major classes of heart medications: angiotensin-converting enzyme inhibitors/angiotensin-receptor blockers (ACEIs/ARBs), beta-blockers, and [statin drugs](#). Over three years' follow-up, the patients had their prescribed drugs for only 50 to 60 percent of the time.

For ACEIs/ARBs and beta-blockers, [medication adherence](#) was significantly lower for patients who had lower levels of [kidney function](#)

at the beginning of the study. Adherence to statin drugs was not significantly related to kidney function.

"Since poor medication adherence increases the risk of hospitalization and death, it is important to understand the scope of the problem," Winkelmayer explains. In a previous study in the same group of patients, the researchers found low medication adherence rates within the first 90 days after [heart attack](#). "In the current study, we wanted to extend these findings to examine long-term outpatient medication adherence, particularly in patients with [kidney dysfunction](#), who are at high risk for recurrent heart attacks but who have not been studied extensively to date." "Future strategies to improve medication adherence and clinical outcomes will need to pay special attention to this high-risk population."

The study had some important limitations. Kidney function was measured based on a single lab test performed in the hospital, which may underestimate the true baseline kidney function. The study included a sample of elderly, low-income patients with a high proportion of whites and women, so the results may not be applicable to a more diverse population. Also, since medication adherence was measured using insurance claims data, the researchers were unable to determine why patients weren't following their prescriptions. "For example, the medication may have been purposely discontinued by the treating physician due to unwanted side effects," says Winkelmayer.

More information: The article, entitled "Kidney Function and Long-Term Medication Adherence after Myocardial Infarction in the Elderly" ([doi 10.2215/CJN.07290810](https://doi.org/10.2215/CJN.07290810)), will appear online on January 13, 2011.

Provided by American Society of Nephrology

Citation: A pounding heart may be dangerous for some kidney patients (2011, January 13)
retrieved 3 May 2024 from
<https://medicalxpress.com/news/2011-01-pounding-heart-dangerous-kidney-patients.html>

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