

# Similar blood pressure drugs could have different impacts on dialysis patients' heart health

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Two seemingly similar blood pressure–lowering drugs have different effects on the heart health of dialysis patients, according to a study appearing in an upcoming issue of the *Journal of the American Society Nephrology (JASN)*. The results indicate that certain dialysis patients may benefit more from one drug while some should opt for the other.

About 20% of kidney disease patients die within one year after they start dialysis and more than half die after five years—mostly from heart disease. Two classes of drugs, called angiotensin converting enzyme inhibitors (ACE inhibitors) and angiotensin receptor blockers (ARBs), act in a similar way to prevent and treat heart disease in the general population. Studies of the drugs in dialysis patients are scarce.

ACE inhibitors and ARBs primarily lower blood pressure, but they also decrease inflammation and can produce other beneficial effects for patients. T. Alp Ikizler, MD (Vanderbilt University Medical Center) and his colleagues looked to see if there is a difference between ACE inhibitor and ARB treatments on dialysis patients' heart health.

The researchers randomized 15 dialysis patients to receive an ACE inhibitor, an ARB, or a placebo for one week. Then patients received no treatment for three weeks, after which they were again randomized to receive an ACE inhibitor, an ARB, or a placebo for one week. This wash-out/treatment cycle was then conducted once more. Tests were

conducted after each treatment cycle.

The investigators found that ARBs were more effective at fighting inflammation while ACE inhibitors were better at preventing blood vessel damage. Both of these properties could help prevent heart disease. The results suggest that ACE inhibitors and ARBs have different effects on dialysis patients' heart health that go beyond their similar [blood pressure](#)—lowering capabilities.

"The implication is that the choice of each of the drugs in dialysis patients could depend on the profile of each individual considered for treatment, which would be a more personalized approach to therapy," said Dr. Ikizler. This implies that different dialysis patients might respond to each drug differently and that some would get the most benefit from ACE inhibitors while others would benefit more from ARBs. The findings emphasize the need for a long-term randomized clinical trial to compare the effects of ARBs and ACE inhibitors on different aspects of heart health in [dialysis](#) patients.

**More information:** The article, entitled "Comparative Effects of Angiotensin-Converting Enzyme Inhibition and Angiotensin-Receptor Blockade on Inflammation during Hemodialysis" will appear online on December 8, 2011, [doi: 10.1681/ASN.2011030287](https://doi.org/10.1681/ASN.2011030287)

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