

# Two drugs do not improve kidney function in acute heart failure patients

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Two drugs tested in a larger trial did not improve kidney function in acute heart failure patients, contrary to results of smaller studies. The results were presented today at the American Heart Association's Scientific Sessions 2013 in Dallas and simultaneously published in the *Journal of the American Medical Association*. Previous smaller studies showed that low-dose dopamine or low-dose nesiritide could improve kidney function and reduce fluid overload that is often present in hospitalized acute heart failure patients by increasing urine production.

In the Renal Optimization Strategies Evaluation in Acute Heart Failure (ROSE-AHF) randomized 26-site trial in the U.S. and Canada, researchers analyzed data on 360 hospitalized acute heart failure [patients](#) with kidney dysfunction from September 2010 to March 2013. Compared to placebo, researchers found that neither dopamine nor nesiritide, when also used with diuretic (water pills) therapy, was better at increasing urine volume or improving levels of serum cystatin-C, an indicator of [kidney function](#), at the end of a 72-hour treatment.

"Kidney-enhancing therapies in acute heart failure continue to elude us," says Horng Chen, M.B., B.Ch., lead author and Mayo Clinic cardiologist. "In the past five years, all the major acute heart failure therapeutic clinical trials have not demonstrated beneficial effects of the therapies tested. This could be partly because the definition of acute heart failure is broad, and hence it includes a diverse group of patients."

Therefore, one take-away from the results of ROSE-AHF is that future

studies in acute heart failure may need to target specific subgroups of these patients. For example, some patients have preserved ejection fraction, where the heart's lower chambers are stiff and cannot relax enough to fill fully between beats, and others may have reduced [ejection fraction](#), where the heart is weak, Dr. Chen says.

Heart failure occurs when the heart doesn't pump blood as well as it should. Acute heart failure—when [heart failure patients](#) require hospitalization—is the most common cause of hospitalization in patients 65 years and older in the U.S., according to the American Heart Association.

"The study shows that as a one-size-fits-all therapy for [acute heart failure](#) patients with renal dysfunction, neither dopamine nor nesiritide improved the ability to get rid of excess fluid while protecting the kidneys in patients hospitalized for heart failure," says senior author Margaret Redfield, M.D., Mayo Clinic cardiologist. "The ROSE-AHF study suggests that these two drugs may have different effects in different types of heart failure. Future [heart failure](#) studies need to carefully assess the effect of therapies in specific types of patients as drugs may help some patients and not others."

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