

Sodium nitrite before artery-opening procedures didn't limit heart muscle damage

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Giving heart attack patients sodium nitrite just before performing a procedure to open blocked arteries doesn't significantly reduce heart muscle damage, according to a late-breaking clinical trial presented at the American Heart Association's Scientific Sessions 2013.

Researchers investigated whether a five-minute sodium nitrite intravenous infusion before the procedure would protect heart muscle from reperfusion damage that may result from reopening the clogged artery.

Percutaneous coronary intervention—also called angioplasty—benefits patients with a blocked artery causing a heart attack. However, it causes some negative effects as well, accounting for a portion of the eventual damage to the heart, called reperfusion injury. Animal studies have shown sodium nitrate can significantly reduce the damage.

In the Nitrites In Acute Myocardial Infarction (NIAMI) Trial, researchers studied 229 first-time [heart attack patients](#) in three hospitals in the United Kingdom and one in Australia. Half of the patients were randomly assigned to get intravenous sodium nitrite immediately before angioplasty. The other half received plain saline.

Six to eight days after the procedure, researchers measured scar tissue in the patients' hearts via cardiac magnetic resonance imaging. Patients given nitrite had no significant (0.7 percent) reduction in the damage from their heart attacks.

At six months, researchers found no benefit from a sodium nitrate infusion for patients.

"This study provides no evidence for benefit in the general population using this specific strategy," said Nishat Siddiqi, M.B.B.Ch., first author of the study and a cardiology clinical research fellow at the University of Aberdeen in Scotland. "Higher

doses of sodium nitrite delivered over a longer period might have brought us different results, but at this dose it doesn't work."

Among diabetic patients in the study, however, nitrite reduced the [heart attack](#) damage by 4.3 percent, but the number of patients was very small and this finding wasn't statistically significant.

Provided by American Heart Association

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