



NIH Scientists Show Nitrite Improves Blood Flow

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Nitrite, a common ion or salt occurring naturally and in processed foods, can improve blood flow by opening blood vessels, according to scientists at the National Institutes of Health. The study indicates that the increase in oxygen in the blood resulting from nitrite may be a potential new treatment for diseases such as high blood pressure, heart attacks, sickle cell disease and leg vascular problems.

The new study demonstrates that when hemoglobin releases its oxygen in regions of the body with low oxygen (such as organs) or high metabolism, it can then convert nitrite to nitric oxide, which is known to dilate blood vessels.

"The importance of this work is that no one considered this molecule to have any significant function and it is relatively abundant in the blood stream," said Dr. Mark Gladwin, senior investigator in Critical Care Medicine, Department of the NIH Clinical Center and an author of the article. Nitrite levels have been shown to be low in patients with high blood pressure. Gladwin and coauthor Dr. Richard Cannon, III in the Cardiovascular Branch of the National Heart, Lung, and Blood Institute, NIH, studied 18 healthy volunteers enrolled in a physiological study. After being infused with sodium nitrite to determine whether nitrite affects blood flow, blood flow increased by 175 percent in those volunteers.

Studies show that 93 percent of human nitrite intake comes from nitrate in vegetables, which is converted to nitrite in the mouth, and from saliva. A very small percentage of human nitrite intake comes from cured meats. Numerous studies have previously suggested that nitrite plays a vital role in regulating blood pressure, promoting wound healing, preventing preeclampsia in pregnancy and even destroying harmful pathogens in the gut. The latest study is one more piece of evidence about the safety and health benefits of nitrite.

Scientists from the University of Alabama at Birmingham, Wake Forest University, Winston-Salem, N.C., and the National Institute of Diabetes and Digestive and Kidney Diseases, NIH, also participated in this study.