

Take Heart – There May Be Help for People with Heart Disease.

Heart disease is the #1 killer in the U.S. New evidence suggests there may be help for already diagnosed individuals.

As the #1 killer in the U.S., millions of dollars are spent each year trying to find ways to reduce the risk of developing heart disease as well as treating it in individuals who are already diagnosed. A lifestyle that includes a healthy diet and regular exercise is the surest way to minimize the risk of developing heart disease, but researchers are trying to identify additional ways to help prevent and treat this deadly disease.

In a study published in the Journal of the American College of Cardiology in September 2000, Canadian researchers revealed findings that suggest a potential role for folate (folic acid) supplementation in patients already diagnosed with coronary artery disease (CAD).

Researchers recruited 75 patients diagnosed with CAD aged 18-75 years to test how high doses of folate supplementation affected homocysteine levels in the blood and the overall function of the blood vessels. Homocysteine is an amino acid that is typically elevated in the blood in individuals with heart disease. An elevated homocysteine level is considered an independent risk factor for atherosclerosis (hardening of the arteries) that can lead to heart disease. Therefore, lowering homocysteine levels is beneficial in reducing the potential for forming plaque-hardening in the arteries.

Because there is some evidence from previous studies that folate can help reduce homocysteine levels, suggesting a potential reduction in the risk for heart disease, researchers gave study participants one of three treatments over a 4-month period: 5 milligrams of folate, folic acid plus antioxidant Vitamins C and E, or a placebo sugar pill.

This therapeutic 5 milligram dose of folate (over 10 times the RDA of 400 micrograms) did reduce homocysteine levels by an average of 11% in the study participants and significantly *improved the functioning of their arteries* as compared to the placebo. Researchers noted that the degree of improvement in artery function with folate supplementation was similar to the effects seen with common prescription drugs like *statins* and *ACE inhibitors* in patients with CAD.

Therefore, there *may* be a potential role for folate as a safe and effective alternative to these drugs, but researchers caution that it is too early to say based on this one small, short-term study. Because statins and ACE inhibitor drugs have been tested in large studies and are associated with reduced heart attacks and stroke, they speculate that the similar degree of artery function

improvement from the folate supplement in this study may also turn out to be important after larger future studies are conducted.

What is folate?

Folate (or folic acid) is one of the B-vitamins and is involved in many metabolic reactions in the body. It plays an important role in the synthesis of DNA – our genetic code - and is involved in numerous essential chemical reactions in the body.

The current RDA for folate is 400 micrograms (mcg) for adults, and is increased to 600 mcg for pregnant women. The tolerable upper level (UL) for regular intake of folate is set at 1,000 mcg (1 milligram). Higher doses than this upper limit may interfere with certain drugs or produce other adverse reactions.

The 5 milligram dose used in the study is considered a *therapeutic dose* – one that is used like a drug to produce certain intended results like lowering homocysteine levels. Like a prescription, therapeutic doses of vitamins or minerals should be discussed and monitored by a professional health care provider.

Food sources of folate.

Folate is found in lots of foods. Organ meats and dark green vegetables like spinach tend to have the highest amount folate, but it is also found in oranges, peanut butter and milk. One cup of raw spinach has 108 mcg of folate; one medium orange contains 44 mcg; two tablespoons peanut butter has 29 mcg; and one cup of nonfat milk contains 13 mcg. Also, because adequate intake of folate has been shown to reduce the risk of spinal birth defects in newborns, since 1998, all commercial breads, pastas, rice and cereal products are fortified with folate to help Americans meet their recommended intake.

What can we conclude from this study?

While researchers clearly indicate that the findings of this study cannot be applied to the general population, this study does show some *initial evidence* of the potential role of folate in relation to the development and treatment of heart disease.

This research raises interesting areas for future research in looking at the reduction of atherosclerosis (hardening of the arteries) through lowering homocysteine levels, as well as studies comparing folate supplementation with other common prescription drugs like statins and ACE inhibitors. Larger, long-term studies will have to be conducted to explore the relationship of folate and heart disease further.

Smaller, significant studies like this one can act as a launch pad to future studies and the development of possible future recommendations related to nutrition and health. Stay tuned to follow this topic over the next several years.

Currently, experts still agree that the best defense to heart disease, and other chronic diseases, is through following a lifestyle that includes a healthy and varied diet with regular physical activity. To learn more about the how to meet your nutrition and exercise needs, you can also search and read more about the Dietary Guidelines for Americans 2005 (<http://www.healthierus.gov/dietaryguidelines/>).

References:

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