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Health Sciences Bulletin

Health Professionals recommend Folic Acid, B6 and B12 for Heart Health and Cognitive Enhancement

A growing body of evidence arising from several clinical studies indicates that regular intake of folic acid and vitamins B12 and B6 can significantly decrease the incidence of adverse heart problems after coronary surgery, especially angioplasty, by lowering plasma homocysteine levels.[1] Homocysteine is an amino acid that accumulates in the blood – mostly as a result of a poor diet – and can lead to blood clots. The latest results come from a clinical study conducted at the University Hospital in Bern, Switzerland.[2]

According to Dr. Guido Schnyder, Assistant Professor in the Cardiology Division at the University of California, San Diego, who co-authored the report in the August 28th issue of The Journal of the American Medical Association, the findings of the study might "modify standard orders for patients undergoing coronary angioplasty." Roughly 1.5 million angioplasties are performed worldwide each year, at a cost of $5,000 to $10,000 each. In addition, up to 20% of patients require a repeat angioplasty within the following year. “A treatment that improves outcome after coronary angioplasty,” says Schnyder, “is not only of benefit to the patients but to healthcare costs overall.” Since the mid-eighties, many studies have shown that even moderately elevated plasma homocysteine levels create significant health risks. Homocysteine injures the cells that line arteries and disrupts normal blood-clotting mechanisms, thereby increasing the risk of clots that trigger heart attacks and strokes.

An article in the June issue of The New England Journal of Medicine reported that elevated levels of homocysteine increase the chance of developing Alzheimer's disease. The higher the homocysteine level, the more likely a person is to develop Alzheimer's disease later in life. When plasma homocysteine is at a high level (over 14 micromoles per liter of blood), the risk of Alzheimer's disease doubled.[3]

As a result, many health professionals argue that taking folic acid, B6 and B12 vitamins regularly can constitute an extremely effective and low-cost preventive health measure both to avoid first-time heart problems as well as to prevent recurrence. A literature review shows that supplementation with these B vitamins among older adults may enhance cognitive functioning. [4]

Main functions of Folic Acid, B6, and B12.

Folic Acid is a member of the B vitamin group and is important for maintaining healthy red blood cells and for preventing anemia. Folic acid deficiency is a common nutrient deficiency in the United States. One reason for this is that it is easily destroyed during food processing and is extremely sensitive to light and heat. It is important in the synthesis of proteins and various amino acids and essential for the healthy maturation of red blood cells.

Vitamin B6 is necessary for the formation of hemoglobin and the growth of red blood cells and facilitates the conversion of glycogen to glucose for energy production as well as for promoting neurotransmitter activity.

Vitamin B12 is understood to be involved in various aspects of protein, fat and carbohydrate metabolism. It is necessary for the maturation of red blood cells and plays a major role in the functioning and maintenance of the nervous system.

References

[1] The studies include:
Schnyder G, Roffi M, Pin R, Flammer Y, Lange H, Eberli FR, Meier B, Turi ZG, Hess OM. *Decreased rate of coronary restenosis after lowering of plasma homocysteine levels*. N Engl J Med. 2001 Nov 29;345(22):1593-600;
Stricker H, Soldati G, Balmelli T, Mombelli G. *Homocysteine, vitamins and gene mutations in peripheral arterial disease*. Blood Coagul Fibrinolysis. 2001 Sep;12(6):469-75;
Dzielinska Z, Kadziela J, Sitkiewicz D, Kruk M, Przyluski J, Deptuch T, Piotrowski W, Dabrowski M, Ruzyllo W. *Elevated levels of homocysteine in plasma as a risk factor for coronary artery disease*. Pol Arch Med Wewn. 2000 Jul;104(1):345-53.
[2] Schnyder, G, Roffi, M, Flammer Y, Pin, R, Hess, O.M. *Effect of Homocysteine-Lowering Therapy with Folic Acid, Vitamin B12, and Vitamin B6 on Clinical Outcome after Percutaneous Coronary Intervention*. JAMA, 2002, Aug; 288(8): 973-979.
[3] Shea T. B, Rogers E, Auer J, Berent R, Eber B, Seshadri S, Wolf P. A. *Homocysteine and Dementia.* NEJM, 2002 June; 346:2007-2008.
[4] Calvaresai E, Bryan J. *B Vitamins, Cognition, and Aging: A Review*. J Gerontol B Sci Soc Sci, November 2001 Nov; 56(6): 327-39.