

Vegetarians May Be At Risk for Developing Heart Disease

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Vegetarianism has become a popular alternative to the traditional Western style diet for many individuals. Rises in protests against animal slaughtering and recognition of potential health benefits have led to this trendy way of eating. A vegetarian diet is considered beneficial by many because of the low intakes of saturated fat and cholesterol along with high amounts of fruits and vegetables. Results from previous research have shown that diets low in saturated fat and cholesterol are associated with a decreased risk for heart disease. However, vegetarians, especially strict vegans, may be at an ever-increasing risk for developing heart disease.

Studies comparing vegetarian diets versus omnivore (meat-eating) diets have shown that vegetarians have increased homocysteine levels. Homocysteine is an amino acid formed in the body. Elevated homocysteine levels have shown to increase the risk of heart disease because it leads to inflammation of arterial walls. The breakdown of homocysteine requires vitamin B6, vitamin B12, and folate. So why vegetarians?

Vegetarian diets are often low in vitamin B12 and vitamin B6. Plant sources lack B12 and are very low in B6. The essential amino acid methionine is another factor often very low in vegetarian diets. When a deficiency of either folate or B12 occurs, the body cannot efficiently metabolize homocysteine to form methionine. An alternative pathway exists for homocysteine metabolism, which requires vitamin B6. Normal homocysteine metabolism leads to production of methionine. Methionine is then converted to a compound known as SAM, which is required for over 100 reactions in the body. SAM regulates the rate at which the body breaks down homocysteine. When methionine levels are low, so are SAM levels. Thus, a deficiency in vitamin B12, B6, or folate can affect the rate at which homocysteine is metabolized and lead to elevated concentrations in the body. Low methionine intakes can also exacerbate the problem.

Diets low in B12 are also low in vitamin B6, which are found widely in animal food sources. Most of the heart disease risk among vegetarians occurs because of the lack of vitamin B12. As noted

above, a deficiency in the vitamin can lead to a deficiency in other vitamins despite their presence in the body.

If a deficiency of vitamin B12 were to exist for too long, anemia could develop characterized by overly large red blood cells. Folate deficiency may occur indirectly because vitamin B12 is required for making it available to aid in DNA synthesis. Food manufacturers have tried to prevent folate deficiency and folate-related hyperhomocysteinemia by adding folic acid to foods. This has been an effective strategy; however, this has not completely solved the problem. Hyperhomocysteinemia is now related to B12 deficiency. Folic acid can mask B12 deficiency because impaired red blood cell synthesis will not occur. Yet, homocysteine levels will still be very high.

It is important to understand that even though you follow a vegetarian diet, you may still be at risk for developing heart disease. Vegans appear to be at the highest risk because of total lack of animal sources in the diet, leading to very low, if any, B12 consumption. Foods high in vitamin B12 are foods of animal origin, like eggs, dairy products, and meats. Becoming aware of this problem, food manufacturers have begun to add vitamin B12 to a variety of foods. Vegetarian diets have been shown to lower total and LDL cholesterol. Yet, a vitamin deficiency resulting in elevated homocysteine levels will negate any of the other potential benefits. Making sure that your diet is adequate in all of the essential nutrients is crucial. Once this is achieved, only then can you be sure that you will maintain a healthy body. Be Healthy!