

Decrease of carotid intima-media thickness in patients at risk to cerebral ischemia after supplementation with folic acid, Vitamin B₆ and B₁₂

Till U, etal. Atherosclerosis 2005;181:131-135.

Background

Carotid intima-media thickness (IMT) is a marker for early atherosclerotic changes as well as for coronary heart disease and cerebral ischemic events.

Why did the researchers do this analysis?

The purpose of this randomized, double-blind, placebo-controlled study was to evaluate the effect of Hcy-lowering therapy on IMT in patients at risk to cerebral ischemia and to assess the evidence for causality by quantifying the relations between the therapeutic effects on both parameters.

Who was studied?

A total of 50 consecutive patients who were at risk for cerebral ischemia were enrolled in the study. The inclusion criteria was a carotid IMT of >1mm at one or more measuring points.

What did the researchers find?

In the treatment group, the carotid IMT significantly decreased after vitamin treatment (1.5mm to 1.42mm, whereas a non-significant increase was observed in the placebo group (1.47mm to 1.54mm).

After 1 year of vitamin therapy, the individual IMT significantly decreased by 4.2%, whereas an increase of 7.4% was observed in control subjects (P=0.015).

What are the implications of the study?

This prospective study shows that patients of an average of 60 years, who are at risk to atherosclerosis, seem to benefit from a 1 year vitamin therapy. In the placebo group, the carotid IMT increased during this time; however, in the treatment group a significant reduction was found.

The data presented in this report give the first placebo-controlled evidence that vitamin therapy can reduce carotid IMT in patients at cardiovascular risk and with an age-corresponding plasma Hcy concentration.