

# Abstract

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## Vitamin C consumption is associated with less progression in carotid intima media thickness in elderly men: A 3-year intervention study.

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**BACKGROUND AND AIM:** Plant foods may lower the risk of cardiovascular disease.

**METHODS:** We assessed changes in the intima media thickness (IMT) of the carotid artery and diet in elderly men. Men (n=563) aged 70+/-5 years were randomly assigned to 1 of 4 groups (dietary intervention, omega-3 supplementation, both or neither) using a 2x2 factorial design. B-mode ultrasound of the carotid arteries and calculation of dietary intake were performed at baseline and after 3 years. We previously showed that omega-3 supplementation did not influence the IMT, thus the dietary intervention (n=233) and no dietary intervention (n=231) groups were pooled.

**RESULTS:** The dietary intervention group had less progression in the carotid IMT compared with the controls (0.044+/-0.091mm versus 0.062+/-0.105mm; P=0.047). This group increased their daily vitamin C intake (P=0.005) and intake of fruit, berries and vegetables (P<=0.001). Increased intake of vitamin C and of fruit and berries was inversely associated with IMT progression (r=-0.181; P=0.006 and r=-0.125; P=0.056, respectively). Multivariate linear regression analysis showed that increased intakes of vitamin C and of fruit and berries were associated with less IMT progression in the intervention group and in the total study population, after adjustment for consumption of dietary cholesterol, cheese, saturated fat and group assignment.

**CONCLUSION:** Vitamin C containing foods may protect against the progression of carotid atherosclerosis in elderly men.

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