

Abstract

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Effect of Antioxidant Vitamins on the Plasma Homocysteine Level in a Free-Living Elderly Population.

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BACKGROUND: The factors influencing total plasma homocysteine levels (tHcy) are of special interest in the attempt to reduce cardiovascular risk.

AIM: This investigation aimed to assess the independent effects of antioxidant vitamins on tHcy in elderly people.

METHODS: Our cross-sectional analysis included data of 184 subjects (≥ 60 years) from the longitudinal study in an aging population in Giessen (GISELA), Germany. We examined the effects of plasma levels, intake and supplementation of vitamin C, vitamin E, and β -carotene on tHcy.

RESULTS: The mean tHcy was within the normal range in this population. Serum folate, the estimated glomerular filtration rate (eGFR), and plasma vitamin C showed a negative association with tHcy in simple regression analysis. In a subsequent multiple regression analysis, eGFR, serum folate, and plasma vitamin C were the relevant independent predictors of tHcy. Intake and supplementation of vitamin C, as well as plasma levels, intake and supplementation of vitamin E, and β -carotene were not associated with tHcy.

CONCLUSION: Vitamin C may be an independent predictor of tHcy in free-living elderly people and, therefore, should be considered in attempts to reduce tHcy.

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