

Plasma antioxidant vitamins and carotenoids in five Japanese populations with varied mortality from gastric cancer.

Tsubono Y, Tsugane S, Gey KF.

Epidemiology and Biostatistics Division, National Cancer Center Research Institute East, Kashiwa, Japan
ytsubono@hsph.harvard.edu

To examine the geographic associations between plasma antioxidant levels and gastric cancer risk, we conducted an ecological study in five regions of Japan representing the threefold variation in the disease mortality within the country. Subjects were 634 men aged 40-49 years sampled randomly from the five regions with 72% response rates. Plasma concentrations of five carotenoids (beta-carotene, alpha-carotene, lycopene, lutein, and zeaxanthin), alpha-tocopherol, and ascorbic acid were measured, and the mean levels were correlated with age-adjusted mortality rates from gastric cancer. beta-Carotene and alpha-tocopherol were inversely correlated with gastric cancer rates ($r = -0.31$ and -0.89 , respectively). alpha-Carotene and lycopene showed stronger inverse correlation than did beta-carotene ($r = -0.67$ and -0.56 , respectively), but these relations disappeared after the exclusion of one outlying region in Okinawa with the lowest mortality. In contrast, ascorbic acid revealed a negative correlation with the exclusion of this outlier ($r = -0.61$). Lutein and zeaxanthin were not inversely associated with risk. The results suggest that plasma levels of beta-carotene and alpha-tocopherol, and possibly alpha-carotene, lycopene, and ascorbic acid, may partly account for the regional difference in gastric cancer mortality in Japan.

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I risultati suggeriscono che i livelli plasmatici di beta-carotene, alfa-tocoferolo, alfa-carotene, licopene e acido ascorbico potrebbero in parte spiegare le differenze regionali nella mortalità da cancro allo stomaco in Giappone.