1: Stroke. 2005 Jul;36(7):1426-31. Epub 2005 Jun 2.

Folate, vitamin B12, and risk of ischemic and hemorrhagic stroke: a prospective,
nested case-referent study of plasma concentrations and dietary intake.

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BACKGROUND AND PURPOSE: Folate metabolism has been implicated in stroke. However, the possibility of a role for folate and vitamin B12, independent of their effects on homocysteine status, remains to be explored. The aim of this prospective, nested case-referent study was to relate plasma and dietary intake levels of folate and vitamin B12 to risk of stroke, taking into consideration plasma homocysteine concentrations and methylenetetrahydrofolate reductase polymorphisms. METHODS: Subjects were 334 ischemic and 62 hemorrhagic stroke cases and matched double referents from the population-based Northern Sweden Health and Disease Cohort. RESULTS: Plasma folate was statistically significantly associated with risk of hemorrhagic stroke in an inverse linear manner, both in univariate analysis and after adjustment for conventional risk factors including hypertension (odds ratio [OR] for highest versus lowest quartile 0.21 (95% confidence interval [CI], 0.06 to 0.71; P for trend=0.008)). Risk estimates were attenuated by inclusion of homocysteine in the model (OR, 0.34; 95% CI, 0.08 to 1.40; P for trend=0.088). A similar pattern was observed for increasing folate intake (multivariate OR, 0.07; 95% CI, 0.01 to 0.55; P for trend=0.031 without homocysteine, and OR, 0.16, 95% CI, 0.02 to 1.23; P for trend=0.118 with homocysteine in the analysis). We found little evidence of an association between plasma or dietary folate and risk of ischemic stroke. Neither plasma nor dietary vitamin B12 was associated with risk of either stroke subtype. CONCLUSIONS: The results of this study suggest a protective role for folate, possibly in addition to its effects on homocysteine status, in hemorrhagic but not ischemic stroke.

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2: Stroke. 2000 Oct;31(10):2287-94.

Serum vitamin C concentration was inversely associated with subsequent 20-year
incidence of stroke in a Japanese rural community. The Shibata study.

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BACKGROUND AND PURPOSE: Epidemiological evidence suggests that vitamin C may decrease the risk of stroke. The purpose of the present study was to examine the association of serum vitamin C concentration with the subsequent incidence of stroke. METHODS: In a Japanese rural community, a cohort of 880 men and 1241 women aged 40 years and older who were initially free of stroke was examined in 1977 and followed until 1997. The baseline examination included a measurement of serum vitamin C concentration. The incidence of stroke was determined by annual follow-up examinations and registry. RESULTS: During the 20-year observation period, 196 incident cases of all stroke, including 109 cerebral infarctions and 54 hemorrhagic strokes, were documented. Strong inverse associations were observed between serum vitamin C concentration and all stroke (sex- and age-adjusted hazard ratios were 0.93, 0.72, and 0.59, respectively, for the second, third, and fourth quartiles compared with the first quartile; P for trend=0.002), cerebral infarction (0.71, 0.59, and 0.51; P for trend=0.015), and

hemorrhagic stroke (0.89, 0.75, and 0. 45; P for trend=0.013). Additional adjustments for blood pressure, serum total cholesterol, body mass index, physical activity, smoking, alcohol drinking, antihypertensive medication, atrial fibrillation, and history of ischemic heart disease did not attenuate these associations markedly. CONCLUSIONS: Serum vitamin C concentration was inversely related to the subsequent incidence of stroke. This relationship was significant for both cerebral infarction and hemorrhagic stroke. Additional mechanistic hypotheses may be required to explain our findings.
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3: Acta Neurol Scand. 1998 Sep;98(3):187-92.

Nutritional status in acute stroke: undernutrition versus overnutrition in different stroke subtypes.

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OBJECTIVES: Nutritional status in the acute stage of stroke has not been properly evaluated in different stroke subtypes. The objective of this study was to investigate the nutritional status of different subtypes of stroke patients. SUBJECTS AND METHODS: We studied 88 female patients with first-ever strokes. Strokes were divided into cerebral infarction (CI, n=67) and intracerebral hemorrhage (ICH, n=21). We measured the nutritional status of the patients in the acute stage of stroke with the use of 8 parameters including 3 biochemical and 5 anthropometric ones. These variables were assessed in stroke patients and 120 age-matched controls, and were compared with each other. RESULTS: In the acute stage of stroke, undernourishment was significantly (P=0.000) more prevalent in the ICH group (62%) than in the CI group (25%) or controls (13%). On the other hand obesity was present in 10%, 24% and 17% in patients with ICH, those with CI, and controls, respectively, which was not significantly different (P=0.461). Only abdominal skinfold thickness was significantly greater in patients with CI than in those with ICH or controls. Conclusions - Our results illustrate that undernourishment is prevalent in acute stroke patients, significantly more so in patients with ICH than in those with CI. Stroke patients, especially those with ICH, should receive special nutritional intervention starting immediately after admission.

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