

Abstract

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Folate intake and the risk of incident hypertension among US women.

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CONTEXT: Folate has important beneficial effects on endothelial function, but there is limited information about folate intake and risk of incident hypertension.

OBJECTIVE: To determine whether higher folate intake is associated with a lower risk of incident hypertension.

DESIGN, SETTING, AND PARTICIPANTS: Two prospective cohort studies of 93,803 younger women aged 27 to 44 years in the Nurses' Health Study II (1991-1999) and 62,260 older women aged 43 to 70 years in the Nurses' Health Study I (1990-1998), who did not have a history of hypertension. Baseline information on dietary folate and supplemental folic acid intake was derived from semiquantitative food frequency questionnaires and was updated every 4 years.

MAIN OUTCOME MEASURE: Relative risk of incident self-reported hypertension during 8 years of follow-up.

RESULTS: We identified 7373 incident cases of hypertension in younger women and 12,347 cases in older women. After adjusting for multiple potential confounders, younger women who consumed at least 1000 microg/d of total folate (dietary plus supplemental) had a decreased risk of hypertension (relative risk [RR], 0.54; 95% confidence interval [CI], 0.45-0.66; P for trend <.001) compared with those who consumed less than 200 microg/d. Younger women's absolute risk reduction (ARR) was approximately 8 cases per 1000 person-years (6.7 vs 14.8 cases). The multivariable RR for the same comparison in older women was 0.82 (95% CI, 0.69-0.97; P for trend = .05). Older women's ARR was approximately 6 cases per 1000 person-years (34.7 vs 40.4 cases). When the analysis was restricted to women with low dietary folate intake (<200 microg/d), the multivariable RR for younger women with total folate intake at least 800 microg/d compared with less than 200 microg/d was 0.55 (95% CI, 0.32-0.94; P for trend = .03), and 0.61 (95% CI, 0.34-1.11; P for trend = .05) in the older cohort. Among women who did not take folic acid-containing supplements, dietary folate intake of 400 microg/d or more was not significantly associated with risk of hypertension.

CONCLUSION: Higher total folate intake was associated with a decreased risk of incident hypertension, particularly in younger women.

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