Abstract

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Dietary intake of dairy products, calcium, and vitamin D and the risk of hypertension in middle-aged and older women.

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OBJECTIVE: Prospective data on the associations between intake of dairy products and its nutrient components with risk of hypertension remain limited. We therefore investigated the associations of intake of dairy products, calcium, and vitamin D with the incidence of hypertension in a prospective cohort of 28,886 US women aged >or=45 years.

METHODS: Intake of dairy products, calcium, and vitamin D at baseline were assessed from semiquantitative food frequency questionnaires. Incident cases of hypertension (n=8710) were identified from annual follow-up questionnaires during 10 years of follow-up.

RESULTS: After adjusting for major hypertension risk factors, the relative risks of incident hypertension across increasing quintiles of low-fat dairy product intake were 1.00 (reference), 0.98, 0.97, 0.95, and 0.89 (P for trend: 0.001). The risk of hypertension decreased in the higher quintiles of dietary calcium (multivariate relative risk in the highest quintile: 0.87) and dietary vitamin D (multivariate relative risk in the highest quintile: 0.95), but did not change with calcium or vitamin D supplements. Adjustment for dietary calcium significantly attenuated the inverse association of low-fat dairy intake with risk of hypertension, whereas adjustment for dietary vitamin D did not change the association. The multivariate relative risks across increasing quintiles of high-fat dairy product intake, in contrast, were 1.00, 1.02, 1.01, 1.00, and 0.97 (P for trend: 0.17).

CONCLUSION: Our study found that intakes of low-fat dairy products, calcium, and vitamin D were each inversely associated with risk of hypertension in middle-aged and older women, suggesting their potential roles in the primary prevention of hypertension and cardiovascular complications.

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