

Abstract

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Folate intake and risk of colorectal cancer and adenoma: modification by time.

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BACKGROUND: Experimental and observational studies have suggested that folate may play dual roles in colorectal cancer risk depending on the timing and dose.

OBJECTIVE: We examined the latency between folate intake and the incidence of colorectal cancer.

DESIGN: We prospectively examined associations between folate intake assessed every 2 to 4 y by using validated food-frequency questionnaires and risk of colorectal cancer and adenoma in the Nurses' Health Study and Health Professionals Follow-Up Study, which included 2299 incident colorectal cancers and 5655 colorectal adenomas from 1980 to 2004.

RESULTS: There was an association between total folate intake 12-16 y before diagnosis and lower risk of colorectal cancer (relative risk: 0.69; 95% CI: 0.51, 0.94; ≥ 800 compared with < 250 μg folate/d), but there was no association between intake in the recent past and colorectal cancer risk. Long- and short-term intakes of total folate were associated with a lower risk of colorectal adenoma, with a strong association with intake 4-8 y before diagnosis (odds ratio: 0.68; 95% CI: 0.60, 0.78; ≥ 800 compared with < 250 μg folate/d). The current use of multivitamins for > 15 y, but not a shorter duration of use, was associated with lower risk of colorectal cancer; and a shorter duration of use was related to lower risk of adenoma. We did not observe an adverse effect of total folate or synthetic folic acid on risk of colorectal cancer or adenoma even during the folic acid fortification era.

CONCLUSION: Folate intake is inversely associated with risk of colorectal cancer only during early preadenoma stages.

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