

COLORECTAL CANCER

Increased folate intake could reduce risk of colorectal cancer

According to a new study in a Korean population, increased intake of folate could reduce the risk of colorectal cancer. Folate—a micronutrient found in fruit and vegetables, particularly leafy green vegetables—has a key role in nucleotide synthesis and DNA replication. A deficiency in folate has previously been linked to an increased risk of colorectal cancer. The mortality rates for colorectal cancer have risen sharply in Korea in the past two decades, perhaps owing to the adoption of a ‘westernized’ diet in this population. “We need to know whether lower fruit and vegetable intake may contribute to this increase [in death rates from colorectal cancer] in this population,” says Dong-Hyun Kim, one of the researchers.

Kim and colleagues carried out a hospital-based, case–control study. A total of 596 patients with colorectal

cancer and 509 control patients were enrolled. Data on smoking habits, alcohol intake, diet and other lifestyle characteristics were collected by a trained nurse interviewer, and the relationship between total folate intake (that is, including dietary folate and supplements) and risk of colorectal cancer was examined. An inverse relationship between dietary folate intake and colorectal cancer, colon cancer and rectal cancer was found. This relationship was stronger in women than in men. Furthermore, total folate intake was significantly associated with a reduced risk of rectal cancer in women.

“We are planning to investigate the effect of folate according to the level of alcohol [intake] ... since folate is known to be destroyed in the body by acetaldehyde, which is a metabolite of alcohol and a potent carcinogen,” says Kim. Further



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studies are also needed to investigate the association between folate intake and site-specific cancer cases.

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Original article Kim, J. *et al.* Folate intake and the risk of colorectal cancer in a Korean population. *Eur. J. Clin. Nutr.* 63, 1057–1064 (2009).