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Study shows link between dairy consumption and cancer

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By Sheena Meredith, MBBS, MPhil

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A relationship between consumption of dairy products and risk of various cancers has been intensively investigated in the past but yielded inconclusive or conflicting results. Now a large new study comparing Chinese dairy consumption with that in the United Kingdom, shows that increased dairy consumption was linked to higher risks of liver cancer and female breast cancer.

The study, by researchers from Oxford University's department of population health, and Peking University and the Chinese Academy of Medical Sciences in Beijing, used data from the China Kadoorie Biobank Study, a long-term prospective study involving more than over 510,000 participants recruited from 10 geographically diverse areas across China, including both rural and urban regions. They compared this to data from the UK biobank.

Subjects were 59% female, 41% male, aged 30-79 years, and had no history of cancer at recruitment between 2004 and 2008. Food questionnaires were completed at the outset and participants followed for an average of 11 years, using national cancer and death registries and health insurance records to identify new cancer diagnoses, including both fatal and nonfatal events.

Participants were categorized into three groups according to how often they consumed dairy products (primarily milk):

- Monthly consumers: 11.1%.
- Nonconsumers who never or rarely consumed dairy products: 68.5%.

Average dairy consumption was 37.9 g/day overall and 80.8 g/day among regular consumers. This compares with an average consumption of around 300 g/day in participants in the UK Biobank cohort.

Over the course of the study, 29,277 new cancer cases were recorded, including 6,282 lung, 2,582 female breast, 3,577 stomach, 3,350 colorectal, and 3,191 liver cancer cases.

Analyses correlating cases with consumption took into account a range of other factors potentially affecting cancer risk, including age, sex, region, family history of cancer, socioeconomic status (education and income), lifestyle factors (alcohol intake, smoking, physical activity, soy consumption, and fresh fruit intake), body mass index, chronic hepatitis B virus infection, and female reproductive factors.

Higher dairy intakes linked with risk of liver and breast cancers

Results revealed that higher regular dairy intake was associated with significantly higher risks of liver cancer and female breast cancer, both common types of cancer in China. Analyses indicated that for each 50-g/day intake, the risks increased by 12% and 17%, respectively.

There was also an increase in total cancer diagnoses, and an increased risk of lymphoma, though this was not statistically significant after correction for confounders. No association was found between dairy products and colorectal cancer, prostate cancer, or any other site-specific cancer.

, is the first major study to investigate dairy consumption and cancer risk in Chinese adults. The results conflict with previous studies on Western populations, which have suggested that dairy products may be associated with a lower risk of colorectal cancer and a higher risk of prostate cancer but have found no clear link for breast or other types of cancer.

Lead researchers Maria Kakkoura, PhD, MSc, and associate professor Huaidong Du, MD, PhD, told this news organization that, although they don't know the reason for the difference, "there is clear evidence that colorectal cancer has a different incidence pattern in China, compared with Western countries. Other risk factors, like adiposity, may have a stronger effect on the risk of colorectal cancer in Western countries than in China." Notably, the mean body mass index in the study population was around 23 kg/m^2, they said – by contrast in the United Kingdom it is 27.6 kg/m2.