

ORIGINAL RESEARCH COMMUNICATION

Vitamin A, retinol, and carotenoids and the risk of gastric cancer: a prospective cohort study^{1,2,3}

Susanna C Larsson, Leif Bergkvist, Ingmar Näslund, Jörgen Rutegård and Alicja Wolk

¹ From the Division of Nutritional Epidemiology, The National Institute of Environmental Medicine, Karolinska Institute, Stockholm, Sweden (SCL and AW); the Department of Surgery and Centre for Clinical Research, Central Hospital, Västerås, Sweden (LB); the Department of Surgery, Örebro University Hospital, Örebro, Sweden (IN); and the Department of Surgery, Section of Colorectal Surgery, University Hospital, Örebro, Sweden (JR)

Background: Vitamin A may influence gastric carcinogenesis through its essential role in controlling cell proliferation and differentiation. However, epidemiologic studies of vitamin A, retinol (preformed vitamin A), and provitamin A carotenoids in relation to the risk of gastric cancer have documented inconsistent results.

Objective: The objective of the study was to examine the associations between intakes of vitamin A, retinol, and specific carotenoids and the risk of gastric cancer in a prospective population-based cohort study of Swedish adults.

Design: The study cohort consisted of 82 002 Swedish adults aged 45–83 y who had completed a food-frequency questionnaire in 1997. The participants were followed through June 2005.

Results: During a mean 7.2-y follow-up, 139 incident cases of gastric cancer were diagnosed. High intakes of vitamin A and retinol from foods only (dietary intake) and from foods and supplements combined (total intake) and of dietary α -carotene and β -carotene were associated with a lower risk of gastric cancer. The multivariate relative risks for the highest versus lowest quartiles of intake were 0.53 (95% CI: 0.32, 0.89; *P* for trend = 0.02) for total vitamin A, 0.56 (95% CI: 0.33, 0.95; *P* for trend = 0.05) for total retinol, 0.50 (95% CI: 0.30, 0.83; *P* for trend = 0.03) for α -carotene, and 0.55 (95% CI: 0.32, 0.94; *P* for trend = 0.07) for β -carotene. No significant associations were found for β -cryptoxanthin, lutein and zeaxanthin, or lycopene intake.

Conclusion: High intakes of vitamin A, retinol, and provitamin A carotenoids may reduce the risk of gastric cancer.

Key Words: Carotenoids • gastric cancer • prospective cohort studies • retinol • vitamin A

This Article

- ▶ [Full Text](#)
- ▶ [Full Text \(PDF\)](#)
- ▶ [Purchase Article](#)
- ▶ [View Shopping Cart](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)
- ▶ [Citation Map](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)
- ▶ [Get Permissions](#)

Citing Articles

- ▶ [Citing Articles via HighWire](#)
- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by Larsson, S. C.](#)
- ▶ [Articles by Wolk, A.](#)
- ▶ [Search for Related Content](#)


PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Larsson, S. C.](#)
- ▶ [Articles by Wolk, A.](#)

Agricola

- ▶ [Articles by Larsson, S. C.](#)
- ▶ [Articles by Wolk, A.](#)

This article has been cited by other articles:

 **Annals of Oncology** [▶ HOME](#)

C. Pelucchi, I. Tramacere, P. Bertuccio, A. Tavani, E. Negri, and C. La Vecchia
Dietary intake of selected micronutrients and gastric cancer risk: an Italian case-control study
Ann. Onc., July 31, 2008; (2008) mdn536v1.
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



C. Persson, S. Sasazuki, M. Inoue, N. Kurahashi, M. Iwasaki, T. Miura, W. Ye, S. Tsugane, and for the JPHC Study Group

Plasma levels of carotenoids, retinol and tocopherol and the risk of gastric cancer in Japan: a nested case-control study

Carcinogenesis, May 1, 2008; 29(5): 1042 - 1048.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)