

# Abstract

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## Determination of the minimal essential serum folate concentration for reduced risk of colorectal adenoma.

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**BACKGROUND & AIMS:** There are no data regarding basal folate levels in patients without colorectal adenoma. This study aimed to determine the minimum serum folate concentration that associates with reduced risk of colorectal adenoma.

**METHODS:** 1510 consecutive patients underwent total colonoscopy for suspected colorectal lesions after barium enema examination. Prior to colonoscopy, history of alcohol consumption was noted and blood serum analyzed for folate and vitamin B12 levels. Polypoid lesions were evaluated histologically. We excluded patients with anemia, history of colonoscopy, overconsumption of alcohol, or malignancies. In all, 458/1510 patients (male/female; 258/200, 40-75 years) were determined eligible. Variables were compared between patients with adenoma and those without adenoma.

**RESULTS:** Serum folate concentration was the variable with the most significant statistical variation between males with adenoma (8.0 ng/ml) and males without adenoma (9.2) ( $p = 0.001$ ). Serum folate concentrations in females with adenoma did not differ significantly from those in females without adenoma (10.7 versus 10.9). When subjects were stratified into groups according to serum folate, we found no significant difference in the prevalence of adenoma in patients with folate levels greater than 8.0 ng/ml.

**CONCLUSION:** Patients with serum folate concentrations above 8.0 ng/ml had the lowest risk of developing colorectal adenoma.

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