Abstract

Title: Folic acid and Adenomas. Can folic acid supplementation reduce the risk of recurrent colorectal adenomas?

Author: Sofie Nyström and Anna Skogberg

Supervisor: Elisabet Rothenberg
Examiner: Anna Winkvist
Programme: Dietician study programme, 180/240 ECTS
Type of paper: Examination paper, 15 hp
Date: May 25, 2011

Background: Colorectal cancer arises from damage to DNA and starts in about 95 % of all cases as a colorectal adenoma. Folic acid is a key component in the formation of DNA. Deficiency may manifest as changes in cell division and changes in DNA, which is considered to generate cancer. Observational studies indicate an inverse correlation between folate intake and risk of developing colorectal cancer. The opposite has been shown in animal studies, in already established lesions.

Objective: To study whether folic acid supplementation can reduce the risk of developing recurrent colorectal adenomas.

Search strategy: Searches were made in the databases PubMed and Scopus. Keywords were: "Colorectal adenoma" AND "folic acid" and "Colorectal adenoma" OR "colon cancer" AND "folic acid "OR" folate ".

Selection criteria: Included studies are human-based, written in English and have been published during the past ten years. Intervention with folic acid-supplementation for at least one year, and with the endpoint recurrence of at least one colorectal adenoma.

Data collection and analysis: Three of the four included studies (all Randomized Controlled Trials) were considered to have high value as evidence and one of them medium-high. The total strength of evidence was assessed to be moderate (+++).

Main results: One of four studies demonstrated a significant reduction of recurrent adenomas with supplementation of folic acid. Three studies showed no significant reduction. One shows a significant increase in recurrence of advanced or multiple adenomas after three years.

Conclusions: Based on a compilation of existing studies, folic acid supplementation does not appear to reduce the risk of recurrent colorectal adenomas. A possible increase in risk for advanced and multiple adenomas have been found after supplementation for more than three years.