ABSTRACTS


The question whether tissue folate deficiency enhances carcinogenesis and whether use of vitamin supplements can correct high tissue folate deficiency is important in cancer research. However, little is known about the ability of blood folate levels or supplements to predict tissue folate levels. The purpose of this study was to determine if a relationship exists in cervical tissue. Ninety patients with high-risk HPV were randomly assigned to be treated with cervical dysplasia surgery or the University of Arizona by the study. Paired cervical biopsy and serum samples from the same individuals were used to measure folate concentrations by the L. Casel microblot assay. The correlation between serum and cervical tissue folate was significant (r = 0.4; p < 0.01). Multiple regression models used to estimate the variability in serum folate concentrations showed that multi-vitamin supplements significantly increased serum folate (p = 0.01). In spite of these associations, however, multi-vitamin supplements had no effect on tissue folate concentrations (p > 0.9). There was no significant confounding from use of birth control pills, grade of histology, smoking, age, parity, or HPV status. Results indicate that higher serum folate levels are associated with higher cervical tissue levels of folate. Multi-vitamin supplements do not seem to influence cervical tissue folate levels, but the effects of higher-dose folate supplements on cervical folate levels has yet to be determined.

62 ASSOCIATION OF COPPER AND CERVELICAL DYSPLASIA WITH TOTAL PLASMA HOMEOSTASIS LEVELS. EW Thomson, DC Heimbach, PE Connolly, MS Turner, MS Sarnel, CB Betlow, Jr. Dept. of Nutrition Sciences, University of Alabama at Birmingham.

An examination of the total plasma homocysteine (Hcy) in 294 subjects with cervical intraepithelial neoplasia (CIN) and 190 control subjects. Associations of La Taile with risk factors for CIN and 24 hour intakes and biochemical indices of nutrients were examined using correlation and regression analyses. La plasma and RBC folate and La plasma B6 were strong inverse correlations of La Hcy (r = 0.35, -0.31, and -0.25, respectively, p < 0.0001). In plasma copper and severity of dysplasia were positively correlated with La Hcy (r = 0.16 and -0.31, p = 0.001 and 0.0001, respectively). A stepwise regression model identified (in descending order of significance) La RBC folate, La plasma copper, grade of dysplasia, race, La intake FUPA, La plasma vitamin B6, La intake Hb, and oral contraceptive use accounted 52 percent of variation in La Hcy.

235 subjects with CIN were randomized to receive folate folic acid (10mg/day) or placebo for 6 months. Baseline mean Hcy was not different between the folate and placebo groups (7.93 ± 3.9, 9.65 ± 3.9, p < 0.05). At the 3, 6, and 6 months, a significant decrease in the folate group (7.12 ± 3.1, 7.02 ± 3.1, and 7.02 ± 3.3, respectively) was significantly lower (p < 0.0001, 0.0004, and 0.0001, respectively) as compared with baseline and with the placebo group at 2, 4, and 6 months (5.93 ± 3.0, 4.83 ± 3.0, and 4.83 ± 3.1, respectively). After 2 months there was no further lowering of mean Hcy levels. Subjects in the upper quartiles of plasma and RBC folate had significantly higher baseline Hcy than subjects in the upper quartiles (11.16 ± 8.9, p < 0.0001 and 0.23 ± 0.8, p < 0.0001) for lowest vs. upper quartiles of plasma and RBC folate, respectively. This difference was eliminated after 2 months supplementation (6.68 ± 7.06 and 7.09 ± 6.83 for lowest vs. upper quartiles of plasma and RBC folate, respectively).

Folates, vitamin B6, copper, and severity of dysplasia are associated with high Hcy levels. Folate supplementation significantly lowers Hcy levels even in the absence of folate deficiency.


Limited research supports that soy products, high in isoflavonoid phytoestrogens, lengthen the menstrual cycle and alter sex serum hormones. It is unknown if phytoestrogen intake has any effect on menstrual function or sex serum hormones in women using oral contraceptives (OCs). The objective of this study was to determine hormonal effects of soy protein (Takes CasaM, 34 g/d, 20 mg genistin) in young women either on OCs (n = 20) or not (n = 16). One-third of OC users were on various triphasic pill combinations, while the rest were on various single-dose pills. This randomized, crossover design consisted of the subjects consuming their habitual diet (control) for 2 menstrual cycles and their habitual diet with soy for 2 menstrual cycles. Blood was collected from each subject during mid-follicular phase and mid-luteal phase in each menstrual cycle. Sex hormones were analyzed by radioimmunoassay in serum samples from the second menstrual cycle of each treatment. No significant differences were observed in estradiol, estrone, SHBG, DHEAS, prolactin, and progesterone concentrations with soy feeding in either the control or OC groups. Changes in menstrual cycle length were seen with soy feeding in either the control or OC groups. Thus, soy consumption had no significant effect on menstrual cycle or serum sex hormones in young women who use or do not use OCs. (Supported by MN Sorey Research & Promotion Council and Protein Technologies International)

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64 BLOOD FATTY ACIDS AS AN OBJECTIVE WAY TO MONITOR FATTY ACID INTAKE. Z. Zuck, R. E. Menaker, J. Harkavy, J. P. Dole, and M. Katan. Department of Human Nutrition, Agricultural University, Wageningen, the Netherlands.

The fatty acid composition of adipose tissue of humans is a potential biomarker of fatty acid intake, but quantitative data are scarce. Between 1987 and 1992, we fed various fatty acids in four controlled trials to 232 healthy volunteers, and measured quantitatively the content of fatty acids in cholesteryl esters. Each of these studies measured the effects of energy fed as linoleic acid (18:2) raised the proportion (ΣO) of linoleic acid in cholesteryl esters by 3.1 ± 0.7 g/100 g fatty acids (p < 10-6). This figure was 7.7 ± 2.0 g/100 g for trans fatty acids (trans-18:1) 1.1 ± 0.5, for stearic acid (18:0) 1.0 ± 0.4, for palmitoleic acid (16:1) 1.7 ± 0.8, for myristic acid (14:0) 2.1 ± 0.7 and for a mixture of saturated fatty acids (12:0, 14:0 and 16:0) 2.2 ± 1.0 g/100 g.

The coefficient of variation of the responses was fairly constant, indicating that changes in intake in each of these fatty acids can be monitored with similar precision. These data can be used to estimate the degree of compliance in experimental studies involving exchanges of single dietary fatty acids. Most fatty acids in cholesteryl esters may also be used in observational studies to estimate differences in intake. However, due to multiple simultaneous differences in fatty acid intake between free-living individuals or populations, such data cannot provide information on absolute fatty acid intakes.

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65 NUTRITIONAL PROTEIN-ENERGETIC STATUS OF PATIENTS AFTER OSTOMATOLGY. E. Petares, M. C. Duriban, E. Arena, E. Mascetti. Dept of Nutrition, University of Sao Paulo, Sao Paulo, Brazil.

The nutritional status of patients at the time of surgery was evaluated in the post-operative period and after discharge. Patients were evaluated at the beginning of the surgical treatment and at the end of the post-operative period. The nutritional status was evaluated by the anthropometric method, and by determining blood serum levels of proteins and albumin. The patients' nutritional status was evaluated by the calculated protein-calorie index (PCI), which takes into account the body mass index, serum albumin and total protein levels. The linear regression analysis showed that the PCI was significantly correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients. The PCI was also correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients. The PCI was also correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients. The PCI was also correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients. The PCI was also correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients. The PCI was also correlated with the post-operative PCI, suggesting that the PCI could be used as a reliable indicator of the nutritional status of patients.