

Alterations in zinc absorption and salivary sediment zinc after a lacto-ovo-vegetarian diet.

Abstract:

The effect of a lacto-ovo-vegetarian diet on plasma zinc tolerance tests and plasma and saliva zinc levels was measured in 12 nonvegetarian women. A diet meeting the Recommended Dietary Allowances for all nutrients, including zinc, was fed to the subjects for 22 days. Initial zinc status of subjects was determined by zinc analysis of their diet, hair, plasma, and saliva. Plasma response to an oral load of 50 mg Zn was determined in five subjects before and after the dietary period. Zinc levels of salivary sediment, which consisted primarily of epithelial cells, significantly decreased from initial values of 128 to final levels, of 94 microgram/g. No significant differences were found in zinc levels of plasma or whole mixed saliva. Plasma response to initial zinc tolerance tests were inversely correlated ($P < 0.05$) to dietary protein levels. Significantly increased plasma zinc uptake and areas under zinc tolerance curves were found after consumption of vegetarian diets compared to diets containing meats. The increased plasma response to a zinc load and decrease in salivary sediment zinc after a vegetarian diet indicate that this diet adversely affects zinc status.