Senkal M, Haaker R, Deska T, Hummel T, Steinforta C, Zumtobela V, Alteheld B, Stehle P. Early enteral gut feeding with conditionally indispensable pharmaconutrients is metabolically safe and is well tolerated in postoperative cancer patients - a pilot study. Clin Nutr 23:1193-1198; 2004

Abstract:

Background & aims: Postoperative early enteral gut feeding with conditionally indispensable pharmaconutrients can contribute to minimize traumainduced gut damage. Aim of this pilot study was the evaluation of metabolic effects and gastrointestinal tolerance of a new enteral supplement.

Methods: In a prospective open clinical trial, 20 cancer patients received the test supplement containing glutamine (as dipeptides), antioxidative (pro-)vitamins (C, E, b-carotene), maltodextrine, tributyrine, sodium, zinc, and selenium within 2-3 h after elective gastrointestinal surgery continuously via jejunostomy tube for 3 postoperative days (500 ml/day). From postoperative day 3-5, additional enteral nutrition (1500 kcal/6270 kJ/day) was given. Metabolic effects (substrate monitoring, hematology, liver/kidney parameters) and tolerance (nausea, vomiting, flatulence, constipation, diarrhea) was assessed through the study.

Results: Gastrointestinal tolerance of the supplement was excellent: no adverse events related to the product were documented. Significantly increased mean plasma levels (day 3 vs. day 1) of vitamin C (13.0+-7.3 vs. 62.8+-29.7 mmol/l), vitamin E (13.5+-6.6 vs. 20.8+-9.2 mmol/l), zinc (5.67+-1.9 vs. 8.6+-2.3 mmol/l) and selenium (35.0+-19.6 vs. 42.9+-0.9 mg/l) as well as enhanced plasma glutamine levels (429.6+-90.6 vs. 530+-200.1 mmol/l) reflected an effective absorption of substrates supplied. Adverse effects on organ functions and hematology were not observed.

Conclusions: Early postoperative gut feeding with the newly developed enteral supplement shows no adverse effects, is well tolerated in cancer patients and provides a novel method to deliver conditionally indispensable pharmaconutrients.