Background & aims: Postoperative early enteral gut feeding with conditionally indispensable pharmaconutrients can contribute to minimize trauma-induced 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.