

## EARLY ENTERAL SUPPLEMENTATION WITH PHARMACONUTRIENTS IN CRITICALLY ILL PATIENTS

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**Introduction:** Glutamine, antioxidants and trace elements have beneficial effects on immunity, and gut and other organ function in critical illness. Early, high-dose enteral administration with a purpose-designed supplement is therefore an attractive therapeutic concept. **Hypothesis:** Early supraphysiologic enteral supplementation of glutamine, antioxidants and trace elements plus an immunonutrition feed in septic patients is safe, allows effective absorption and improves organ failure as measured by change in SOFA score. **Methods:** 55 patients with presumed sepsis, APACHE II scores  $\geq 10$  and expected ICU stays  $\geq 72$  hours were prospectively randomized within 24 hours of admission to receive Intestamin® plus the immunonutrition formula Reconvan (Fresenius Kabi), or a control supplement solution plus a standard feed (Fresubin - Fresenius Kabi) via the nasogastric route for up to 10 days in a double-blind fashion. The primary outcome variable was change in SOFA score over the study period. Biochemical and safety data were also collected. **Results:** Patients in the treatment group showed a faster fall in SOFA over time compared with control, with the regression coefficients of the slopes for daily delta SOFA being significantly steeper for the intent to treat (-0.3232 vs -0.1424,  $n = 55$ ,  $p < 0.0001$ ), per protocol (-0.3387 vs -0.1387,  $n = 46$ ,  $p < 0.0001$ ), and completer groups [who received  $\geq 80\%$  of target feed in 6 days] (-0.2573 vs -0.1568,  $n = 35$ ,  $p = 0.005$ ). Antioxidative vitamin and amino acid levels were significantly increased in the treatment group by day 3. There were no clinically significant differences in the tolerance and safety profile between the groups. **Conclusions:** Early provision of the Intestamin®/Reconvan combination was safe, effectively absorbed, and associated with a more rapid improvement in organ function than control.