Abstract

Background & aims: To determine whether perioperative glutamine supplementation of parenteral nutrition (PN) has an impact on morbidity and mortality of patients with previous moderate to severe risk of malnutrition. Methods: A quasi-experimental study was conducted comparing the following groups: Control group 1: without glutamine dipeptide supplementation of PN during the perioperative period. Control group 2: PN was supplemented with glutamine dipeptide (0.4 g/kg/day) after surgery only. Group 3 (follow-up group): PN was supplemented with glutamine dipeptide (0.4 g/kg/day) in the perioperative period. Postoperative morbidity and mortality was recorded. Results: Sixty-seven patients matched for baseline and surgical characteristics were recruited into the study. Univariate analysis showed a lower incidence of hyperglycemia and ICU admission in group 3, and a trend to significance (P = 0.078) in terms of a lower incidence of infection. In the multivariate analysis, only group 3 met the models of ICU admission (OR = 0.28), hyperglycemia (OR = 0.11), and renal failure (OR = 0.19). Conclusions: The results show that perioperative use of glutamine dipeptide in patients at risk of moderate to severe malnutrition before surgery is an effective option for decreasing the morbidity associated with malnutrition, as it improves blood glucose modulation and reduces infection and ICU stay.

Keywords
Glutamine, Perioperative, Surgery, Malnutrition, Parenteral nutrition.