Impact of Severe Malnutrition Assessed by Composite Index on In-hospital Mortality after Surgery for Intestinal Perforation

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【Objective】The aim of this study is to evaluate the impact of the mal-nutritious state on in-hospital mortality after surgery for intestinal perforation.

【Methods】The patients who underwent surgery for intestinal perforation from 2013 to 2016 were retrospectively analyzed. Preoperative nutritional status were evaluated by Seoul National University Hospital–Nutrition Screening Index (SNUH-NSI). We evaluated risk factors for in-hospital mortality after surgery for intestinal perforation.

【Results】A total of 269 patients were enrolled and 24 patients (8.9%) died before discharge. The patients in the mortality group had higher Charlson Comorbidity Index score (4.67 vs. 3.36, P = 0.011), severe malnutrition rate (61.6% vs. 95.8%, P<0.001), preoperative lactate level (4.59 vs. 1.89, P = 0.01), related reoperation level (12.5% vs. 1.2%, P = 0.011), and emergency surgery rate (67.0% vs. 87.5%, P = 0.039) than the patients who survived after the surgery. They also showed higher proportion of dirty and fecal contaminated ascites (83.3% vs. 66.9%, P = 0.004). Multivariable analyses revealed that the severe malnutrition (OR 8.314, 95% CI 1.053~22.357, P = 0.011), related reoperation level (OR 1.244, 95% CI 1.080~1.432, P = 0.002), and fecal contaminated ascites (OR 5.789, 95% CI 1.499~22.357, P = 0.011), had significant effects on the in-hospital mortality after surgery for intestinal perforation. However, when the nutritional status was assessed with individual variables such as albumin, protein, cholesterol, and BMI, no factor was identified as a risk factor.

【Conclusion】Severe malnutrition assessed by composite index, preoperative lactate level, fecal contaminated ascites were associated with the in-hospital mortality after surgery for intestinal perforation.

Effect of Intervention for Quality Improvement of Nutritional Therapy in Critically ill Patients

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【Background】Providing optimal nutrition for critically ill patients is significant for patient outcomes. Persistent and active intervention for quality improvement (QI) of nutritional therapy is essential after implementation of nutrition protocol. The purpose of this study is to evaluation the effect of the intervention for QI of nutritional therapy in critically ill patients.

【Method】The study was conducted retrospectively for 1048 patients who admitted medical ICU and received nutritional therapy from Aug 2015 to Nov 2017. The intervention for QI of nutritional therapy was performed by intensivist, nurse, pharmacist and clinical dietitian. The activities including daily monitoring, personalized assessment with intervention and monthly review, correcting error and re-education. Primary outcome is the improvement of nutritional quality including proportion of the patients receiving nutritional therapy and proportion of early enteral nutrition (EN).

【Result】465 patients were provided with EN and 181 were with PN respectively. Oral intakes were made by 354 patients, 35 were not nourished at all. The average time from ICU admission to EN was 29.1 hours and 85 patients started EN after 48 hours. Time from ICU admission to EN (R2=0.18, P<0.05) and proportion of late EN (R2=0.16, P<0.05) were decreasing as time goes on after implementation of intervention for QI of nutritional therapy.

【Conclusion】Multi-disciplinary intervention for QI of nutritional therapy was significantly related to improving of the practices of nutritional therapy in critically ill patients.