

Pengaruh Nutrisi Enteral Tinggi Protein pada Anak Sakit Kritis Pascabedah: Kajian terhadap Imbang Nitrogen dan Intestinal Fatty Acid Binding Protein = The Effect of High-Protein Enteral Nutrition on Critically Ill Post-Surgery Children: A Study on Nitrogen Balance and Intestinal Fatty Acid Binding Protein

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Abstrak

Anak sakit kritis pascabedah memiliki risiko mengalami malnutrisi. Terapi nutrisi optimal mampu mencegah morbiditas dan menurunkan mortalitas. Asupan protein yang adekuat mempercepat tercapainya anabolisme. Saat ini belum ada data yang tersedia mengenai pengaruh suplementasi protein enteral terhadap imbang nitrogen dan kadar Intestinal Fatty Acid Binding Protein (I-FABP). Penelitian ini bertujuan untuk menganalisis apakah peningkatan asupan protein nutrisi enteral berhubungan dengan perbaikan imbang nitrogen dan penurunan kadar serum I-FABP pada anak sakit kritis pascabedah. Penelitian ini merupakan uji klinis acak terkontrol dengan penyamaran ganda, melibatkan anak sakit kritis pascabedah usia 1-5 tahun yang mendapat nutrisi enteral dini. Total 76 subjek dibagi menjadi dua kelompok: kelompok dengan protein standar (3,0 g/100 mL) dan kelompok dengan protein tinggi (4,35 g/100 mL). Penilaian imbang nitrogen dilakukan 24 jam pertama dan ketiga setelah pemberian nutrisi enteral, sedangkan kadar I-FABP diperiksa sebelum dan sesudah 72 jam nutrisi enteral. Terjadi peningkatan signifikan rerata imbang nitrogen pada kelompok protein tinggi 283,4 (SB 82,5) mg/kg/hari, dibandingkan kelompok protein standar dengan nilai 114,7 (SB 53) mg/kg/hari ($p < 0,0001$). Tidak terjadi penurunan signifikan kadar I-FABP pada kelompok peningkatan imbang nitrogen di atas rerata dibandingkan kelompok peningkatan imbang nitrogen di bawah rerata. Pemberian suplementasi enteral protein tinggi meningkatkan imbang nitrogen pada anak sakit kritis pascabedah tanpa efek samping yang merugikan.

.....Critically ill post-surgical children are at risk of malnutrition. Optimal nutritional therapy can prevent morbidity and reduce mortality. Adequate protein intake accelerates the achievement of anabolism. Currently, no data is available regarding the effect of enteral protein supplementation on nitrogen balance and levels of Intestinal Fatty Acid Binding Protein (I-FABP). This study aims to analyze whether increasing protein intake in enteral nutrition is associated with improved nitrogen balance and reduced serum I-FABP levels in critically ill post-surgical children. This was a double-blind, randomized controlled trial involving critically ill post-surgical children aged 1 to 5 years who were receiving early enteral nutrition. A total of 76 subjects were divided into two groups: the standard protein group (3.0 g/100 mL) and the high-protein group (4.35 g/100 mL). Nitrogen balance was assessed on the first and third days, while I-FABP levels were examined before and after 72 hours of enteral feeding. There was a significant increase in the average nitrogen balance in the high protein group, 283.4 (SD 82.5) mg/kg/day, compared to the standard protein group, 114.7 (SD 53) mg/kg/day, with $p < 0.0001$. There was no significant decrease in I-FABP levels in the group with nitrogen balance improvement above the average compared to the group with nitrogen balance improvement below the average. High-protein enteral supplementation improves nitrogen balance in critically ill post-surgical children without adverse side effects.