

# Analysis of nitrogen balance in children after major surgery

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The endocrine-metabolic response to surgery is characterized by endogenous protein breakdown, depletion of energy reserves, and increased energy expenditure. In order to analyze the effect of parenteral nutrition (PN) after major surgery on nitrogen balance (NB) in children, we studied 40 patients with Diffuse Peritonitis, 8.9 years (range 4-14y). They were randomly assigned to a study group (SG, n=24), receiving PN (amino acids 1,5-2 g/kg/d and 100% predicted basal metabolism rate (PBMR)) for 5 days, starting 24-48 h after surgery, or to a control group (CG, n=24). receiving standard treatment (without PN). In both groups enteral feeds were added as tolerated on 3th day. C-reactive protein (CRP) and NB were evaluated on postoperative days 1.4 and 6. A positive NB was obtained on day 4 in 11 patients SG and 2 patients CG ( $p < 0.05$ ). A significant correlation between protein intake and NB in both groups was found (Day 4: SG:  $y = -0.3354 - 0.14954x$ ;  $r = 0.72$ ,  $p = 0.000$  and CG:  $y = -0.2866$