



**12.º Congresso Brasileiro de
Terapia Intensiva Pediátrica**
**11.º Congresso da Sociedad LatinoAmericana de
Cuidados Intensivos Pediátricos**
13 a 16 de junho de 2012
São Paulo - SP

Trabalhos Científicos

Título: Hyperglycemia And Postoperative Outcomes In Pediatric Neurosurgery

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Resumo: Introduction. Recent studies in adults have demonstrated the deleterious effects of hyperglycemia in intensive care patients and its substantial impact on crucial outcomes such as mortality. A clear association between hyperglycemia and poorer outcomes has been demonstrated in some specific clinical situations, such as septic shock and traumatic brain injury. However, hyperglycemia has yet to be fully studied in the context of pediatric surgery, mainly pediatric neurosurgery. Methods. A retrospective cohort study analyzed the charts of 198 patients undergoing neurosurgery in Hospital Santa Catarina, Sao Paulo. Results. The most frequent surgeries were brain tumor resection (37.4%), craniosynostosis (31.3%) and ventriculoperitoneal shunting (16.7%). A total of 139 glucose measurements were recorded for the patients included in the study. Hyperglycemia was diagnosed in 62.6% of the patients. The patient glucose level upon admission to the PICU and the highest glucose level noted in the first 24 hours post-admission were recorded. The mean glucose level was recorded following the 24-hour measurement. A univariate analysis identified a positive association between hyperglycemia and a prolonged duration of PICU stay (3.88 days vs. 2.46 days, $p = 0.042$). However, hyperglycemia was not associated with prolonged hospitalization or the duration of mechanical ventilation required. The multivariate analysis did not identify any positive associations between hyperglycemia and any of the three outcomes studied. Conclusions. Hyperglycemia is frequent in children following neurosurgery and was not found to be associated with higher morbidity in this study. . Further studies are necessary to elucidate the role of hyperglycemia in pediatric surgical patients.