ABSTRACT

Background: *Intraoperative fluid administration based on Holliday and Segar recommendations suggesting hypotonic fluid use with 5% dextrose addition may lead to hyperglycaemia and hyponatremia postoperative. In emergency conditions plus surgery stress and anesthesia, an increase in the process of gluconeogenesis and glycolysis due to elevated levels of cortisol in the blood causes stress hyperglycaemia. Meanwhile the antidiuretic hormone is elevated under stress conditions causing hyponatremia. This study aims to analyze appropriate intraoperative maintenance fluid options for pediatric patients undergoing emergency surgery.*

Methods: *This study involved 33 subjects aged 3 months - 12 years with PS ASA 1 - 2 who underwent emergency surgery and in accordance with inclusion and exclusion criteria. Subjects performed general anesthesia and blood glucose screening after induction. Subjects were then divided into 3 groups, those given the infusion solution of NaCl 0,45% D5% (I), RLD1% solution (II) and RLD2.5% solutions (III) as intraoperative maintenance fluid based on Holliday and Segar formula. Performed blood glucose examination 30 minutes post incision. After surgery, performed blood sugar and natrium checks. The results and the difference between blood sugar and natrium compared to the three groups.*

Result: *There was a significant increase in post-induced blood sugar levels- 30 minutes post incision (p 0,005) and post incision and post-induced post-surgery blood sugar (p 0,045) in NaCl 0,45%D5% group. There was a significant decrease in blood natrium in NaCl0,45%D5% (p0,045). There was an incidence of hyperglycaemia in all three groups indicating a stress hyperglycaemia during surgery.*

Conclusion: *RLD1% and RLD2.5% solution can be a choice of intraoperatif in-patient remedies for pedriatic patients undergoing emergency surgery. But the incidence of stress hyperglycaemia should be aware of can occur during an after surgery.*

Key words: *Emergency surgery, intraoperatif maintenance fluid, stress hyperglycaemia*