

The Efficacy and Safety of Isotonic Electrolyte Solution for Intraoperative Fluid Replacement in the Electrolyte Levels among Children undergoing Major Surgeries: A Meta-Analysis of Randomized Controlled Trials

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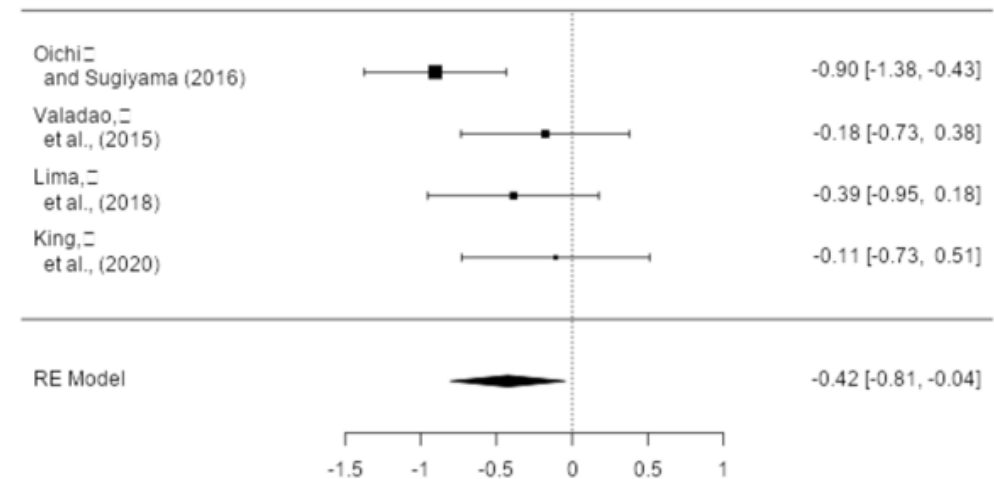
BACKGROUND: Major pediatric surgical procedures are associated with large fluid shifts between body compartments. Children are less able to cope with inappropriate water and electrolyte administration due to immaturity for their organ systems. Hence, anesthesiologists have to consider carefully the type and amount of intravenous fluid administered intraoperatively.

OBJECTIVE: To determine if there is a difference in the incidence of electrolyte imbalance among children undergoing major pediatric surgeries using IES compared to other crystalloid solutions.

METHODS: Literature search was done using carefully selected keywords. Five studies were included. Primary Outcome is the change in electrolyte levels for sodium, potassium and calcium

RESULTS: Results show that the amount of change in sodium is lower in IES compared to other crystalloids

CONCLUSION: IES should be considered as a fluid of choice especially in pediatric patients undergoing surgery. The fluid of choice should be the one closer to the serum levels



RECOMMENDATION: Further studies on intraoperative fluid with different endpoints should be considered

KEYWORDS: perioperative fluid resuscitation, balanced solutions, crystalloids, electrolytes