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To evaluate the efficacy and safety of oral triiodothyronine for infants and children undergoing cardiopulmonary bypass in an Indonesian population

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Objectives: To evaluate the efficacy and safety of oral triiodothyronine for infants and children undergoing cardiopulmonary bypass in an Indonesian population.

Methods: We performed a single center, randomized, double-blind, and placebo-controlled trial in children age≤3 years undergoing congenital heart disease surgery with cardiopulmonary bypass. We administered oral triiodothyronine (T3, Tetronine®) 1 µg/kg-body weight/dose or placebo (saccharum lactis) via nasogastric tube every 6 hours for 60 hours since induction of anesthesia. The primary endpoint, time to extubation, was compared with Cox regression.

Results: The modified intention to treat group included 101 placebo and 104 treated subjects. The stratified log-rank test did not show a significant treatment difference (p=0.061) for time to extubation, but after adjustment for age, nutritional Z-score, and Aristotle surgical complexity, the hazard ratio (HR) was 1.33 (95% confidence interval (CI)=1.00, 1.76, p=0.049). The effect of T3 was stronger in the strata ≤5 months of age (HR: 1.86, 95% CI: 1.02, 3.39, p=0.043). Median intubation time for the placebo and T3 group in ≤5 months were 47.3 hours and 32.1 hours, respectively. Adverse events rates including arrhythmia were similar between groups, though sepsis was more frequent with placebo.

Conclusions: Oral T3 supplementation may shorten time to extubation in children undergoing congenital heart disease surgery, particularly infants ≤5 months. Administration is relatively safe, simple and inexpensive.

Biography

Eva Marwali has done her specialization in Pediatric Cardiac Intensive Care from the National Cardiovascular Center, Indonesia. She is a member of the Society of Critical Care Medicine. She is a member of Extracorporeal Life Support Organization.

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