

# 11<sup>th</sup> World Congress on Pediatric Cardiology and Congenital Cardiovascular Disease

April 18-19, 2017 London, UK

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

**Eva Marwali**

National Cardiovascular Center, Indonesia

**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  $\leq 3$  years undergoing congenital heart disease surgery with cardiopulmonary bypass. We administered oral triiodothyronine (T3, Tetronine®) 1  $\mu\text{g}/\text{kg}$ -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  $\leq 5$  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  $\leq 5$  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  $\leq 5$  months. Administration is relatively safe, simple and inexpensive.

eva.marwali@pjhk.go.id

## Does endocardial fibroelastosis of the left ventricle affect right ventricular performance in fetuses with hypoplastic left heart syndrome? A prospective study using M Mode, PW and Tissue Doppler techniques

**O Graupner**

Technical University of Munich, Germany

**Introduction & Purpose:** Myocardial function (MF) of the systemic right ventricle (RV) determines the postnatal course of neonates with hypoplastic left heart syndrome (HLHS). Our study examines, whether the presence of endocardial fibroelastosis of the left ventricle (LV EFE) influences MF of the RV in HLHS fetuses.

**Materials & Methods:** A prospective study was conducted including 10 controls (group 1), 10 HLHS fetuses with (group 2) and 10 without LV EFE (group 3)-all matched for gestational age. M-mode was used to assess tricuspid plane systolic excursion (TAPSE) and the shortening fraction (SF). PW-Doppler and PW-TDI derived velocities were assessed. E/A, E/e', e'/a' ratios and the myocardial performance index (MPI) were calculated.

**Results:** The examination of MF revealed significantly lower velocities ( $p<0.05$ ) and higher values for SF in group 2 compared to group 3. ET (ejection time), E wave velocity, E/e' and SF showed significantly higher values in group 2 compared to group 1. In group 2 a' velocity increased significantly over gestational age. TAPSE increased during gestation in group 3 but not in group 2.

**Conclusion:** These significant differences in MF between the groups might lend support to the notion of negative ventricular-ventricular interaction in case of HLHS with LV EFE possibly influencing surgical outcomes.

oliver.graupner@googlemail.com