

14TH WORLD NEPHROLOGY CONFERENCE

July 23-24, 2018 Melbourne, Australia

Acute Kidney Injury prediction in paediatric cardiac surgery patients with phosphorus as simple biomarker

Burra Vijitha

Jayadeva Institute of Cardiovascular Sciences & Research, India

BACKGROUND: Acute Kidney Injury (AKI) is a strong predictor of morbidity and mortality after cardiac surgery. Lack of valid early biomarkers for predicting AKI has hampered the ability to take therapeutic measures for preventive cause. Hyperphosphatemia that occurs in AKI due to renal excretion defect was not studied in this context and could be simple marker of AKI. Therefore, we tested role of serum phosphorus in prediction of AKI as a biomarker after cardiac surgery in children.

METHODOLOGY: We prospectively evaluated 51 children aged between 3mo-12yrs undergoing elective cardiac surgery. Serum creatinine and phosphorus were measured preoperatively and postoperatively at 24,48hrs. As per KDIGO (Kidney Disease Improving Global Outcome) criteria, patients were grouped into AKI and NON AKI on basis of development of AKI within 48hrs postsurgery. The postoperative diagnostic performance of phosphorus thresholds were analysed by the area under receiver operating characteristic curves (AUC-ROC).

RESULTS: From 51 children included, 10 developed AKI. In AKI group, serum phosphorus increased significantly from 4.47 ± 1.36 baseline to 6.29 ± 1.01 at 24hrs postsurgery ($p=0.003$). While serum creatinine increased from baseline 0.36 ± 0.19 to 0.74 ± 0.90 at 24hrs which is insignificant ($p=0.14$). Receiver Operating Characteristic Curve analysis showed that serum phosphorus at 24hrs, the area under the curve was 0.84 with sensitivity 0.75, specificity 0.93 for a cut off value of 6.4mg/dl. Whereas serum phosphorus at 48hrs, the area under the curve was 0.86 with sensitivity 66.67% and specificity 97.62% for a cut off value of 5.4 mg/dl.

CONCLUSION: Serum phosphorus can be an alternative biomarker as early as 24hrs for early prediction of AKI in paediatric cardiac surgery.

Biography

Burra Vijitha is pursuing DM in Cardiac Anesthesia Department of Cardiac Anesthesia Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore, India. Got Gold Medal in Final year MBBS part 1 & 2 and Best outgoing student in MBBS. Secured University FIRST RANK in Diploma in Anesthesia (DA) in Dr. NTR University of Health Sciences, Vijayawada. Did Fellowship in Advanced and Difficult Airway for four months in Kailash Cancer Hospital, Vadodara India. Published 6 papers in International journals. Presented 10 papers in National and International conferences and CMEs. Got best free paper award in NAC 2016 at Vadodara, India. Got selected for JANAK MEHTA award paper presentation in IACTA National Conference in Feb 2nd -4th 2018 at Hyderabad, India. Attended 13 CMEs, Workshops, and Conferences.

burravijitha@gmail.com