THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

Abstract Submission No.: A-1492

Evaluating the role of serum phosporus in predicting acute kidney injury in pediatric cardiac surgery patients.

Fayaz ahmed Mubarak Ali, **Aashal Bhavesh Shah**
Department of Pathology, Guwahati Medical College, India

Objectives : Acute kidney injury (AKI) is a frequently encountered cause of morbidity and mortality in pediatric patients post cardiac surgery. Early identification of AKI in such patients can prevent the complications due to AKI. Using serum phosphorus measurement, which is usually elevated early in AKI, can help in early diagnosis and management of AKI. Thus, this study was conducted to evaluate the efficiency of serum phosphorus as a biomarker for AKI in pediatric cardiac surgery patients.
Methods : The study was conducted prospectively for a duration of one year at the pediatrics department of a tertiary care hospital. Children aged 6 months to 13 years undergoing elective cardiac surgery were included in the study. Serum creatinine and phosphorus were measured pre-operatively. Post-surgery, the tests were repeated at 24 and 28 hours. The children were classified into AKI and Non-AKI groups based on AKI development within 48 hours of surgery using Kidney Disease Improving Global Outcome (KDIGO) criteria. Area under curve- receiver operating characteristic (AUC-ROC) were used too analyse the postoperative diagnostic performance of serum phosphorus thresholds in patients who developed AKI. $P < 0.05$ was considered statistically significant.
Results : A total of 78 children were included in the study. Out of this, 21 children developed AKI post surgery. There was a significant increase in serum phosphorus in these children from baseline 3.74±1.63 to 6.82±1.36 mmol/L at 24 hours ($P = 0.002$). Rise in serum creatinine was statistically insignificant ($P = 0.18$). Using AUC-ROC, serum phosphorus cut-off value at 24 hours was 6.9 mg/dl and at 48 hours was 5.6 mg/dl.
Conclusions : Serum phosphorus can be used as an early predictor of AKI in pediatric patients post cardiac surgery. Further studies for other biomarkers must be conducted to reduce the mortality and morbidity associated with AKI in such patients.