

## To determine the ability of RAI (Renal Angina Index) in predicting AKI (Acute kidney injury) in patients in PICU

### Abstract

#### Introduction:

Acute kidney injury (AKI) occurs in one fourth of the children admitted to pediatric intensive care unit (PICU). The rationale for the study is to check the ability of 'Renal Angina Index' (RAI) as a predictor of AKI for the early detection and management of AKI.

#### Methodology:

An observational study conducted on children, aged 1 month to 12 years, admitted in PICU of a rural tertiary care center, after ethical approval and informed consent. Patients with previous diagnosis of renal impairment were excluded. The RAI (day 0) was calculated at admission by multiplying risk group score and renal injury score along with serum creatinine levels on day 0 and estimated creatinine clearance (eCrCl) was calculated, which was correlated with the reference eCrCl as per age standards. The RAI  $\geq 8$  was considered positive and the proportion of children with positive RAI on day 0 developing AKI on day 3, AKI stage 2 or above as per KDIGO classification, was studied using appropriate statistical tools.

#### Results:

There were 27 children, with median age 18 months (IQR10, 48) enrolled, with a prevalence of AKI being 40.7% and the median day of onset of AKI being 2 days (IQR-2, 3). Twelve children's (44.4%) had positive RAI. Out of this, 10 cases (83.3%) developed AKI compared to only one patient (6.7%) of RAI negative cases. The sensitivity, specificity, positive predictive value (PPV) and negative predictive values (NPV) were 90.91%, 87.50%, 83.33% and 93.33%, respectively. The Receiver Operating Characteristic curve of Day 0 RAI  $\geq 8$  showed AUC of 0.87, which was better than AUC of serum creatinine on day 0 (i.e., 0.78).

#### Conclusion:

RAI on admission has a better predictive value for detection of AKI in children admitted in PICU.

#### Biography:

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