



TITLE: Correlation between Neutrophil-to-Lymphocyte Ratio (NLR) and Immature-to-total Neutrophil (I/T) Ratio to Bacterial Infection among Children with Chronic Kidney Disease

Name : Galuhafiar Puratmaja
Affiliation : Pediatrician at Pandega General Hospital,
Former Pediatric Resident at Dr. Hasan Sadikin General Hospital
Country : Indonesia
Email ID : galuhafiar@gmail.com

ABSTRACT

Chronic kidney disease (CKD) in children has a long-lived impact, such as an increased risk of bacterial infection. Infection may accelerate disease progression, making early detection crucial. Inflammatory markers typically used for bacterial infection are C-Reactive Protein (CRP) and Procalcitonin (PCT). This study aimed to determine the correlation between levels of neutrophil-to-lymphocyte ratio (NLR) and immature-to-total-neutrophil ratio (I/T ratio) to bacterial infection in children with CKD as indicated by the serum levels of CRP and PCT. An observational analysis with a cross-sectional design was conducted from January 2019 to November 2021 in children from 3 months to 18 years old with CKD and bacterial infection. Retrospective data were obtained from medical records at Dr. Hasan Sadikin General Hospital, Bandung. Correlation analysis was performed (SPSS program) at a 95% confidence level, and results were considered significant if the p-value <0.05. There were 42 children, and 57% were female; with a median age of 13 years (range 1–17 years). Most patients had normal nutritional status (55%) although 40% were malnourished. Correlation analysis between I/T ratio and NLR with PCT was positive, with $r=0.284$ ($p<0.05$) and $r=0.265$ ($p<0.05$), respectively, whereas there was no significant correlation of I/T ratio ($r=0.154$; $p>0.05$) and NLR ($r=0.188$; $p>0.05$) to CRP. We concluded NLR and I/T ratios have a significant positive correlation with PCT levels but not with CRP levels. NLR and I/T ratios can be considered as alternative markers for diagnosing CKD in children with a bacterial infection.

BIOGRAPHY

Galuhafiar Puratmaja has completed his pediatric residency from Padjadjaran University, Dr. Hasan Sadikin General Hospital, Bandung, West Java, Indonesia. He is now pediatric staff at Pandega General Hospital, Pangandaran, West Java. He provide and promote child health medicine in remote rural area with limited resources and facilities.

Presenter Name: Galuhafiar Puratmaja
Mode of Presentation: Oral/Poster
Contact number: +62 812-105-2076

