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Prevalence of renal dysfunction among HIV paediatric children attending DRRH

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Abstract

Introduction: WHO estimates 36.7 million people were living with HIV worldwide in 2016, of these 2.1 million (6%) were children under 15 years of age in 2015. Renal complications are an important component of advanced HIV disease. About 30% of people with HIV may have kidney disease (UNSAID). Kidney disease is an important complication in HIV-infected individuals and is associated with an increased risk of morbidity and mortality. There are many factors for kidney disease in HIV infection include: African descent, female gender, older age, elevated creatinine, low CD4 counts, high viral load, prolonged use of ART, nephrotoxic drugs and comorbidity. All of these factors had impacts on short and long-term prognosis of the patient with HIV.

Methodology: In this cross-sectional analytical study, we studied children including all children aged less than 17 years, infected with HIV, attending the paediatric HIV clinics at Dodoma regional referred hospital and Makole HIV clinic within Dodoma town.

Demographics and clinical data were obtained by parental interview, clinical and laboratory assessments, and patient's files. Blood and urine samples and anthropometric data were obtained from each of the study participants. The serum creatinine levels were estimated and used in calculating eGFR.

Renal dysfunction was defined as the presence of significant proteinuria of $\geq 1+$ on dipstick and/or GFR < 60 mL/min/1.73m². An eGFR was calculated using modified bedside "Schwartz equation".

Results: Of the 236 children recruited, 124 were males and 112 were females. The mean age of the children was 5.5 ± 3.5 years. All the children were on ART and majority were on treatment for less than 5 years. The overall prevalence of renal dysfunction among HIV infected children was 56%, with statistically significant proteinuria, low CD4 and high viral load among the participants. The routine laboratory measurements like Serum creatinine and proteinuria, have played a significant role in recognizing the patients with early renal involvement. In view of the high prevalence of renal dysfunction among hospitalized HIV infected patients, it is recommended to use serum creatinine and urine dipstick for proteinuria as routine screening tests in those who are HIV positive.

Funding and Conflicts of Interest

None