

# **RENAL AND ELECTROLYTE DISTURBANCES IN HIV INFECTED PATIENTS.**

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## ***Background & objectives:***

*HIV/AIDS patients may have renal involvement also, however, Indian data are sparse. The present study was done to find the prevalence of renal diseases in HIV/AIDS patients attending ART centre, Govt Rajaji hospital Madurai.*

## ***Methods:***

*A previously designed proforma will be used to collect the demographic and clinical details of the patients. Two hundred patients will be selected randomly. All the patients will undergo detailed clinical evaluation, appropriate investigations such as CD4+ count, Blood sugar, Blood urea, serum creatinine, Serum electrolytes , urine routine and USG abdomen. The*

*study group will be divided into two groups: Group A ART naive patients and Group B HIV patients on ART.*

***Results:***

*About 60% of study population were in the age group of 21-40 years and 36% of study population were in the age group of 41-60 year. Around 62% of study population were ART NAIVE and 38% were on ART. Gender distribution is of around 65% male and 35% female. Blood urea and creatinine level was raised in 33 patients(16.5%) of study population, among them 9 patients(27% )on ART and 24 patients(73%) were ART NAÏVE. Around 45% patients have CD4 count between 200-500 and 32% patients have CD4 count 501-1000. Mean urea level in the study population was found to be 30.140 ; with a standard deviation of 15.372. Mean serum creatinine in the study population is 1.109 with a standard deviation of 0.618. Blood urea and creatinine levels are raised in ART naive patients than patients on ART, p value were 0.038 and 0.047 respectively, it is statistically significant which indicates urea and creatinine level was higher in ART NAÏVE patients and lower in patients taking ART.*

*Around 72 (36% ) patients were found to be having hyponatremia . Mean serum sodium in the study population is 133.7 with a standard deviation of 7.199. Around 41 (20.5% ) patients were found to be having hypokalemia . Mean*

*serum potassium in the study population is 3.892 with a standard deviation of 0.894. Serum sodium and potassium level was found to be decreased in more ART naïve patients than those on ART, p value were < 0.027 and < 0.015 respectively which is statistically significant and indicates Na<sup>+</sup> and K<sup>+</sup> level was significantly lower in ART NAÏVE patients compared to patients on ART. Proteinuria present in 33 patients (16.5%) of study population, among them 9 patients (27% ) on ART and 24 patients (73%) were ART NAÏVE. Significant proteinuria was higher in ART NAÏVE patients and lower in patient taking ART. USG abdomen showed increased cortical echoes in 30 patients (15%) of study population, among them 7 patients (23% ) on ART and 23 patients (77%) were ART NAÏVE. Renal cortical echoes were higher in ART NAÏVE patients and low occurrence in patient taking ART. Cortico medullary differentiation was maintained in all patients.*

### ***Interpretation & conclusions:***

*Renal involvement seems to be common in Indian patients with HIV. Elevated Blood urea, serum creatinine and proteinuria could be an early marker of HIV associated renal lesions and screening for their presence may be beneficial. A low occurrence of renal involvement found in patients already on ART suggests some renoprotective effect of ART. Hyponatremia, hypokalemia and hyperkalemia are common electrolyte disorders in HIV infected patients. Among them hyponatremia and hypokalemia incidence is*

*more in ART NAIVE patients than patient on ART. This indicates decreased incidence of electrolyte disturbances on patients on ART may be due to less oppurtunistic infections in them. The present findings need to be confirmed with further studies with larger sample size and prolonged period of follow up.*

**Key words** : ART –Anti retroviral therapy

*HIV - human immunodeficiency virus*