ABSTRACT

BACKGROUND: The burden of HIV/AIDS pandemic remains huge in Africa and Nigeria in particular, being Africa’s most populous nation. HIV associated renal diseases constitute enormous morbidity and mortality in people living with HIV/AIDS worldwide. HIV – associated nephropathy, one of the grave consequences of HIV systemic manifestations was adjudged to be the 3rd leading cause of ESRD in African-Americans aged 20-64 years. Although this disease entity has been widely studied in the developed countries, there is a dearth of data in Nigeria about its prevalence.

AIMS AND OBJECTIVES: Therefore, this prospective cross sectional study was aimed at providing data on the prevalence and factors associated with development of HIVAN.

METHODS

Four hundred HIV – infected patients were screened over one year period for the presence of proteinuria and/or elevated serum creatinine.

Thirty consecutive HIV – patients with nephropathy were later compared with another thirty consecutive HIV – patients without nephropathy (controls). Exclusion criteria included diabetes mellitus, hypertension, fever, pregnancy, congestive cardiac failure and urinary tract infection. Their early morning urine samples were tested for protenuria using albustix and spot urine sample was used to estimate 24hrs
urine protein by calculating protein to creatinine ratio. Their full blood count (FBC), CD4 cell count, serum electrolytes, urea, creatinine, serum proteins and total cholesterol were also estimated. Renal biopsy was done on 10 of the patients with nephropathy. Statistical analysis was done using SPSS version 11.5

**RESULTS:**

The prevalence of renal disease was 127 (31.8%) of the 400 patients that were screened. The mean age was 37.5±10.3 years and ranged was 20 to 70yrs. The prevalence was higher in males 72(56.7%) than females 55 (43.3%). The commonest symptoms seen were nocturia 43(33.8%), low urine output, 43(33.8%) frothy urine 38(30%), pruritus 29(22.38%) vomiting, 17 (13.4%), leg swelling 17 (13.4%), and facial swelling 13 (10.2%). The common signs were weight loss 80(63.0%) pallor 43 (33.8%), hepatomegaly 1(0.8%), and ascites1(0.8%). The BMI ranged from 16.0 to 33.8kg/m² with mean of 22.9 ± 3.8kg/m². Thirteen (10.2%) of the subjects had a BMI of less than 18.5kg/m².

The mean PCV was 33.9±6.7% with 34(26.8%) of the subjects having a PCV of less the 30%. The mean CD4 cell counts was 219.57 ± 89.22 cells/µL. Mean serum creatinine was 113.77 ± 72.89µmol/l and mean creatinine clearance was 68.77 ± 21.22 mls/min. The mean ACR was 427.67 ±267.66mg/g

Forty seven (37.0%) had nephrotic range proteinuria .The mean serum cholesterol and albumin were 5.20±1.73 mmol/l and 32.66±4.98g/l respectively. Renal disease had no correlation with, CD4 cells count or creatinine clearance. There was
significant difference in creatinine clearance, CD4 cells count, duration of ARVs therapy and serum albumin levels between subjects and controls. HBSAg seropositivity was present in 23.3% of the subjects compared with 6.7% of the controls (fisher’s test=0.073), while HIV –2 seropositivity of 13.3% was seen (fisher’s test=0.056), although not statistically significant, there was tendency towards some significance. No significant difference in BMI, blood pressure, and family history of hypertension or diabetes mellitus between the subjects and controls. Focal segmental glomerulosclerosis (FSGS) was the predominant finding in the histology.

**CONCLUSION**

The prevalence of renal disease in HIV-patients is high in Nigeria with male preponderance. Low creatinine clearance, CD4 cell counts differentiates HIV patients with nephropathy from those without nephropathy. The histopathological feature of patients with HIVAN is similar to that of blacks reported elsewhere. Therefore, routine screening for the presence of renal disease in all HIV patients is recommended for early detection and appropriate intervention.