ABSTRACT

BACKGROUND

Human immunodeficiency virus/Acquired immunodeficiency syndrome (HIV/AIDS) remains a huge problem in Nigeria and in fact globally. Whereas renal disease especially HIV associated nephropathy (HIVAN), one of its grave complications, has been extensively studied in the developed countries of the world where HIVAN is now the third leading cause of end stage renal disease (ESRD) in USA among African American males between 20 and 64 years, there remains a paucity of work emanating from Africa, particularly Nigeria.

AIMS/OBJECTIVES

In this prospective case control study on HIVAN I aimed to add to the existing literature by determining the occurrence rate, clinical features and pathology.

METHODS

Four hundred consecutive HIV/AIDS patients were screened for renal disease over a 14 month period using at least 1+ albuminuria and/or elevated serum creatinine. Thirty consecutive HIV/AIDS patients with renal disease were later compared with another 30 consecutive HIV/AIDS patients without renal disease (controls). Exclusion criteria included diabetes, hypertension, pregnancy, congestive cardiac failure and urinary tract infection. Their socio-demographic data and clinical findings were obtained and documented. Their early morning urine samples were tested for albuminuria using albustix and 24 hour urine protein and creatinine clearance were determined. Their full blood count (FBC), CD4+ count, serum electrolytes, urea, creatinine, serum proteins and total cholesterol were also carried out. Renal biopsy was done in 10 of the patients with renal disease. Statistical analysis was done using SPSS version 10.0.

RESULTS

The occurrence rate of HIVAN was 152 (38%) of 400 HIV/AIDS patients. Seventeen and half percent (17.5%) of patients had proteinuria ≥ 2+. The mean age was 35.80 ± 10.01
years and ranged from 19 to 65 years. The prevalence was higher in females 78 (51.3%) than males 74 (48.7%). The commonest symptoms seen were vomiting 50 (32.9%), pruritus 38 (25.0%), hiccups 26 (17.1%) and leg swelling 37 (24.3%) while facial swelling was seen in 18 (11.8%). The common signs were wasting 75.7%, pallor 61.8%, hyperreflexia 51.3% and peripheral sensory loss 43.4%. Periorbital and pedal oedema were found in 7.2% and 15.1% respectively. Systolic and diastolic hypertension were seen in 11.2% and 13.2% respectively. The mean body mass index (BMI) was 18.5 ± 3.1 Kg/m². Ninety patients (59.2%) had BMI < 19.0Kg/m². The mean packed cell volume (PCV) was 25.26% with 69.2% of patients with PCV of less than 30%. The CD4+ count ranged from 20 to 820 cells/µL with a mean of 246.49 ± 192.8 cells/µL. Mean serum creatinine was 210.11±337.8µmol/L and mean creatinine clearance was 64.69±38.52ml/min. Creatinine clearance of 60ml/min and below was recorded in 52.6% of patients. The mean 24 hour protein excretion was 2.57±2.42g/day with a range of 1.0 to 11.2g/day. Mean serum total cholesterol, total protein and albumin were 3.56±0.73mmol/L, 74.09±11.34g/L and 34.98±6.47g/L respectively. HIVAN had a negative correlation with CD4+ count and creatinine clearance and a positive correlation with family history of renal disease and peripheral neuropathy. There was significant difference in marital status, educational status and creatinine clearance less than 60ml/min between patients and controls. CD4+ count less than 200cells/µL though not statistically different in HIVAN patients and the controls, it showed a tendency towards statistical significance (P=0.064). Antiretroviral (ARV) use, HIV-2, BMI less than 19Kg/m², family history of hypertension, diabetes and renal disease were not of any statistically significant difference in the two groups. HIV-FSGS with glomerular collapse is the predominant pathologic finding in our patients.

CONCLUSION

The prevalence of HIVAN in Nigeria is high and is almost of equal proportion in males and females. Marital status, educational status and creatinine clearance < 60ml/minute clearly distinguish HIV/AIDS patients with HIVAN from those without HIVAN. Antiretroviral therapy, BMI < 19Kg/m², HIV-2, family history of hypertension, family
history of diabetes mellitus and family history of renal disease were not significantly different between the two groups. The pathology seen in our patients is similar to that in blacks elsewhere. Routine screening of HIV positive patients for renal disease is recommended for early detection and intervention especially as a high proportion of our patients present late.