SUMMARY

BACKGROUND

Cardiac abnormalities in HIV and AIDS is a subject that is rousing a lot of interest. Various screening modalities have been used to assess cardiac involvement in patients infected with HIV. There is varying prevalence depending on the screening modality used. Echocardiography is a valuable tool used in assessing cardiac diseases and has been used in a large number of studies to evaluate cardiac abnormality in HIV patients. This study is aimed at assessing the incidence of cardiac abnormalities among HIV positive individuals using echocardiography, the pattern of the cardiac abnormalities and the relationship between these cardiac abnormalities and CD4 count.

MATERIALS AND METHODS

Study cases were randomly selected amongst adult patients aged 18 years and above, who fulfilled the inclusion criteria, presenting at the University of Port Harcourt Teaching Hospital with a diagnosis of HIV disease. Controls were subjects from the hospital population who had no history of cardiac disease, non hypertensives, non diabetics and tested negative for the human immunodeficiency virus. The controls were carefully matched with the cases for sex and age. The study period was from July 2008 to July 2010.

Ethical clearance was obtained from the the Ethical Committee, University of Port Harcourt Teaching Hospital. Subjects were evaluated for cardiac abnormalities
using the Aloka 4000ssd ultrasound machine and appropriate cardiac probe after clinical examination and laboratory investigations, including packed cell volume, CD4 count, chest x-ray and electrocardiography.

Data was analysed using the SPSS 11 statistical software package.

**RESULTS:** The study subjects were 200 HIV positive patients: 76 (38%) males and 124 (62%) females with a male to female ratio of 1:1.6. They were aged between 18 yrs and 56 years, with a mean age of 33.13 ±8.4 years.

The controls were made up of 100 individuals who met the inclusion criteria: 64 females (64%) and 36 males (36%) with age range between 19 and 54 years with a mean age of 31.82 ±8.72 years and male to female ratio of 1:1.7.

The mean ages for the female cases and controls were similar with no statistical difference; as were the mean ages of the male cases and the male controls.

The mean blood pressure also compared favourably. However there were significant differences in the packed cell volume (PCV), pulse rate and the body mass index (BMI) of controls, as compared to HIV patients.

The echocardiographic abnormalities were in order of frequency pericardial effusion, left ventricular (LV) diastolic dysfunction, depressed LV ejection fraction, depressed LV and Right Ventricular (RV) ejection fraction, and regional wall motion abnormality. Cardiac abnormalities occurred commonly in patients with lower CD4 count. Some cardiac abnormalities continued to occur despite appreciation in CD4 lymphocyte count.

**CONCLUSION**
HIV affectation of the heart can be insidious and ubiquitous; can occur irrespective of the CD4 count but commonly at lower CD4 counts (less than 200 cells/l). A physician will require a high index of suspicion as it can be asymptomatic and masked by concomitant chest infection or diarrhoeal disease.