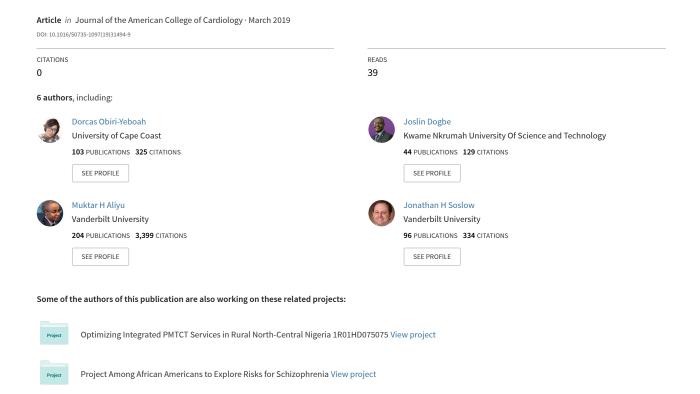
EVALUATION OF THE PREVALENCE OF CARDIAC DYSFUNCTION IN HUMAN IMMUNODEFICIENCY VIRUS INFECTED CHILDREN ON HIGHLY ACTIVE ANTIRETROVIRAL THERAPY







Heart Failure and Cardiomyopathies

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Poster Contributions
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Background: Prior to the widespread use of highly active antiretroviral therapy (HAART), the prevalence of cardiac dysfunction among children infected with human immunodeficiency virus (HIV) was estimated between 50-75% in sub-Saharan Africa. We assessed the cardiac function among Ghanaian HIV-infected children on long term HAART and determined factors associated with cardiac dysfunction.

Methods: Confirmed HIV infected (HIV+) children aged 9 - 240 months (mo) from a tertiary teaching hospital and nearby hospitals in Cape Coast, Ghana were recruited. HIV exposed/uninfected (HIV-) aged 2 - 216 mo were used as controls. Cardiac assessment included: fractional shortening (FS) by M-mode; left ventricular ejection fraction (LVEF) using bullet method; assessment for pericardial effusion and diastolic function by tissue Doppler E/E; E/E <10 was considered normal. Most recent CD4 count and viral load were obtained from the medical records. The prevalence of cardiac abnormalities were determined using simple proportion; two sample t-test, Wilcoxon rank sum test and linear regression were used to compare means and test relationships between function, CD4 count and viral load.

Results: Among 185 children, 121 were HIV+ and 64 were HIV-. The HIV+ group was older (median age 120 mo vs 24 mo, p <0.001). Echocardiographic abnormalities were present in 13.2% of HIV+ group. Abnormalities included LVSF <28% in 4.1% (n=5); LV dilation (LV internal dimension in diastole z-score >2) in 3.3% (n=4); LVSF <28% and LV dilation in 2.5% (n=3); LVEF <55% in 2.5% (n=3) and pericardial effusion in 0.80% (n=1). No abnormalities were seen in the control group. The mean (±SD) cardiac functional indices for the HIV+ vs the HIV- were FS (35.8%±0.47 vs 39.7%±0.51, p=0.004), EF (59.5%±0.35 vs 60.2±0.54, p=0.28). Abnormal diastolic indices were present in 4.1% (n=5) of the HIV+ children. The mean CD4 count (n=53) was 799.6 (±586.2) cells/mm³; median (IQR range) viral load (n=54) was 40830 (279-201769) copies/ml. There was a weak positive association between CD4 count and EF (r²=0.10, p=0.01).

Conclusion: Cardiac dysfunction among Ghanaian HIV+ children on long term HAART is lower than previously reported in sub Saharan Africa.