PA-054 CORRELATION OF HIV-1 P24 ASSAY WITH CD4 T-CELL COUNT, HIV, HBV AND HCV CO-INFECTIONS AND ITS IMPLICATION FOR ART MONITORING IN VASTLY HIV-INFECTED POPULATION OF NIGERIA

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Background Reports indicate that extensive genetic diversity of HIV-1 impacts almost every aspect of HIV-1 epidemiology, including laboratory detection, ART/resistance, monitoring of ART and vaccine development. Therefore, in order to support the scale-up of access to HAART to mitigate the HIV-1 scourge, prompt, accurate and cost-effective diagnosis and monitoring of ART is crucial in Nigeria (a resource-limited country).

Methods Plasma of 200 confirmed HIV-1 patients on a specified and uniform ART regimen was monitored with P24 antigen assay and CD4 T-cell count as virologic and immunologic assessments of response to ART. The results of the assays (P24 and CD4 count) were compared to assess sensitivity, turn-around time and financial advantages of P24 over the CD4 count. Serological analysis of HBV and HCV were performed according to the manufacturer's instructions. Enumeration of CD4+ levels was done with a Partec flow cytometer.

Results Of these patients, 77.5% had HIV only, 14.5% had HIV–HBV and 11.5% had HIV-HCV. Evaluation of levels of P24 antigen revealed that lower limits for P24 antigen 0.577–2.308 were detected in the subjects with CD4 cell count >500. However, higher limits for P24 antigen 2.308–2.885 were detected in subjects with CD4 cell count within the range of 200–499. Correlation analysis showed an inverse relationship between CD4 count and level of P24 antigen (CD4 count of 200–499 cells/μl versus 2.308–2.885 of P24, r=–0.319, CD4 count≥500 cells/μl versus 0.577–2.307 of P24, r=–0.088).

Conclusions This study suggests that p24 could serve as one of such diagnostic and monitoring facilities that could be used in a

resource-limited area like Nigeria. This will in turn lead to selection of more specific ARV options that best suppress viraemia during initiation of ART, as well as for monitoring HIV-1 patients in Nigeria, knowing that the virus subtype impacts effectiveness of ART.