

HIV PATIENTS BEGINNING ART WITH <200 CD4 T-CELLS/ μ L RETAIN A HIGH BURDEN OF CYTOMEGALOVIRUS FOR AT LEAST 5 YEARS.

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Background: Low CD4/CD8 ratios associate with poor clinical outcomes in HIV patients receiving ART. This may reflect expanded CD8 T cell populations driven by persistent CMV infections, evident through levels of CMV reactive antibody and by the presence of CMV DNA.

Methods: We present a longitudinal study of 32 Indonesian HIV patients beginning ART (V0) with <200 CD4 T-cells/ μ L and followed for 5 years (V60). HIV RNA was assessed in plasma and CMV DNA (qPCR amplifying *UL54*) was assessed in buffy coats at V0 and V60. CMV antibodies to lysate CMV, CMV IE and CMV gB were assessed in plasma at V0, V12 and V60 and in Indonesian healthy controls (n=32). CD8 T cell counts were determined at V60.

Results: CD4 T-cell counts rose at V12 ($P<0.001$) and V60 ($P<0.001$) and HIV RNA levels declined by V12 ($P<0.001$) demonstrating effective ART. CMV DNA detected in 16/32 patients at V0 and 3/32 patients at V60 demonstrating persistent CMV replication or frequent reactivations. Patients had higher levels of antibodies reactive with CMV gB and lysate than the Indonesian healthy controls ($P<0.001$) with no difference between CMV DNA positive and negative patients at any time. CD8 counts and CD4/CD8 ratios were also similar in CMV DNA + and – patients at V60 ($P=0.41$, $P=0.42$), with CD8 T cell counts higher than CD4 ($P<0.001$, $P<0.001$).

Conclusion: Indonesian HIV patients begin ART with a high burden of CMV evidenced by detection of CMV DNA and by high levels of antibodies to CMV proteins. CMV replication is less common after 5 years, but levels of antibodies are maintained suggest a high burden of CMV and consequently high CD8 T cell counts.

Disclosure of Interest Statement:

The authors have no conflicts to disclose