CMV VIREMIA IN PATIENTS WITH ADVANCED HIV INFECTION: A 48 WEEK FOLLOW-UP STUDY

00753

P. Suanzes[1,3], A. Albasanz[1], J. Esperalba[2], C. Fernández[2], J. Sellarés[1], A. Torrella[3], B. Planas[3], A. Segura[4], M. Martín[3], J. Navarro[1], J. Burgos[1], A. Curran[1], E. Ribera[1], V. Falcó[1]

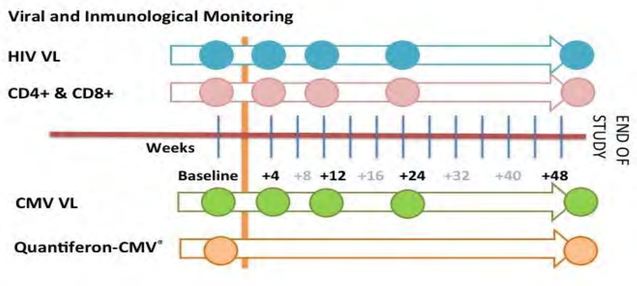
[1]Infectious Diseases Department, H. U. Vall d'Hebron, Barcelona, Spain; [2]Microbiology Department, H. U. Vall d'Hebron, Barcelona, Spain; [3]Vall d'Hebron Institut de Recerca (VHIR), Barcelona, Spain; [4]Internal Medicine Department, H. U, Vall d'Hebron, Barcelona, Spain

BACKGROUND

Nowadays, the incidence of CMV end-organ disease (EOD) is very low even though the prevalence of CMV viremia is around 30% in patients with HIV infection and ≤100 CD4 T-lymphocytes. We hypothesize that immune reconstitution after initiation of antiretroviral therapy (ART), rather than anti-CMV specific treatment, is the best strategy to clear CMV viremia in patients without EOD. We aim to study the dynamics of CMV viral replication and the recovery of specific immune response against CMV after the initiation ART. Here we present the final results of a 48-week prospective study.

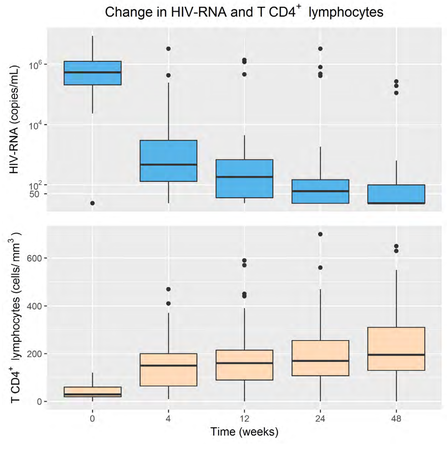
METHODS

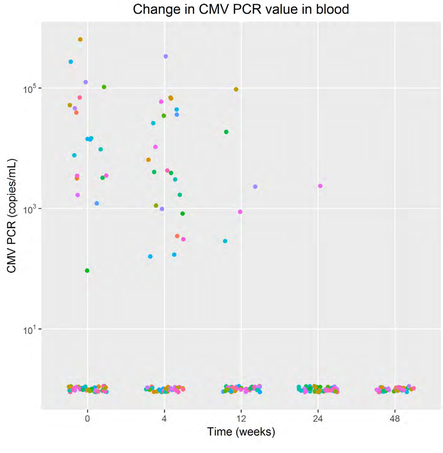
- Prospective observational study including patients with HIV infection and <100 CD4 TL between September 2015 and July 2018.
- We determined HIV viral load (VL), CD4-TL and CMV VL by quantitative PCR at baseline, 4, 12, 24 and 48 weeks.
- We determined specific immune response against CMV (QuantiFERON-CMV®) at baseline and at 48 weeks.
- ART was started for all patients but only patients with CMV EOD received anti-CMV treatment.
- Statistical analysis: Friedman's (quantitative) and chi-square (qualitative) tests were used to assess the evolution over time.

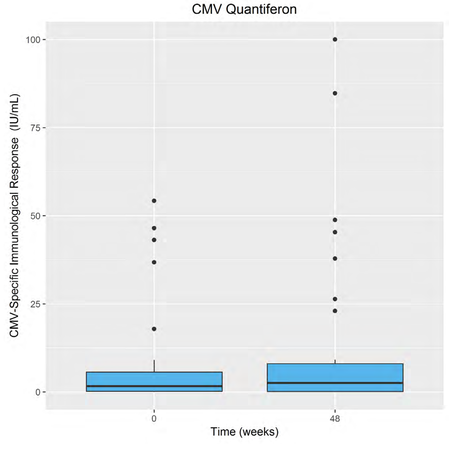


Despite a baseline prevalence of CMV viremia higher than 30%, ***only 1 patient had detectable CMV viremia at week 24 and none at week 48*** after ART initiation without anti-CMV treatment. Even though patients had advanced HIV infection ***we found a high prevalence of specific CMV immune response at baseline*** that quantitatively increased at the end of the study

	Baseline (n=53)	Week 4 (n=50)	Week 12 (n=40)	Week 24 (n=43)	Week 48 (n=40)
HIV infection					
CD4 TL (cells/µL), median [IQR]	30 [20-60]	140 [63-205]	150 [88-208]	150 [100-240]	195 [130-310]
HIV VL (copies/mL), median [IQR]	510000 [186000-1300000]	390 [125-2320]	174 [24-497]	61 [24-145]	24 [24-99]
Undetectable HIV VL (<50 copies/mL), n (%)	2 (3.8)	7 (14.0)	10 (25.0)	21 (48.8)	27 (67.5)
CMV infection					
Positive CMV PCR, n (%)	18 (33.9)	20 (40.0)	4 (10.0)	1 (2.3)	0 (0)
PCR CMV+ (copies/mL), median [IQR]	15218 [3676-69484]	5007 [1017-40037]	1542 [755-26633]	2490	-
CMV specific immune response (QuantiFERON-CMV®)					
Reactive, n (%)	38 (73.1)				28 (70.0)
CMV-specific IFN-γ (UI/mL), median [IQR]	1.64 [0.16-5.52]				2.53 [0.10-7.99]







RESULTS

- Baseline characteristics: 53 patients were included, 19 (35.8%) were women, median age (IQR) was 43.5 (35.7-52.4) years. At baseline median (IQR) CD4-TL count was 30/µL (20-60) and median (IQR) HIV VL was 510,000 copies/mL (186,000-1,300,000).
- CMV replication dynamics: 18 (33.9%) patients had detectable CMV viremia at baseline, 4 (10%) at week 12 and none at week 48.
- Only 1 patient developed EOD (stomatitis) during follow-up. 7 (13.2%) patients were lost to follow-up and 6 (11.3%) died, none of them related to CMV infection.
- QuantiFERON-CMV: 38 (73.2%) patients had specific CMV immune response at baseline compared to 28 (70.0%) at week 48. The specific CMV IFN-γ response increased from baseline (median: 1.66, IQR: 0.16-5.52) to week 48 (median: 2.53, IQR: 0.1-7.99) in the 40 patients that completed the follow-up (p=0.048).

CONCLUSIONS

The prevalence of CMV viremia in patients with advanced HIV infection is high but the incidence of CMV-EOD remains low, which might be explained by a sustained CMV-specific immune response. CMV viremia gets suppressed after starting ART without specific anti-CMV treatment.

ADDITIONAL KEY INFORMATION

Contact: paula.suanzes@vhir.org

Vall d'Hebron Barcelona Campus Hospitalari