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HIV positive patients with persistent low-level viremia at the University Hospital of La Princesa (Spain)

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Background:

The purpose of HIV treatment is to achieve and mantain an undetectable viral load (VL) (<50 copies/ml)

Despite a greater number of antiretrovirals drugs, 4-10% of patients[1] have persistent low level viremia (LLV).

The meaning of persistent LLV is not clearly defined specially in terms of prognosis and management .[2] [3]

Objective:

To describe the population of patients with persistent LLV at the Infectious Diseases consultations of the University Hospital of La Princesa.

The secondary objective was to compare patients with LLV 50-199 copies/ml versus LLV 200-499 copies/ml.

Materials and methods

Descriptive retrospective study developed at University Hospital of La Princesa (Madrid)

Patients with at least two consecutive VL between 50 and 499 copies/ml

Patients without antiretroviral treatment, elite controllers and blips were excluded

Since January 1st 2017 until December 31st 2017

Demographic, clinic, inmunologic, virologic and analytical variables were analyzed. Resistance test and treatment modifications were collected

Results:

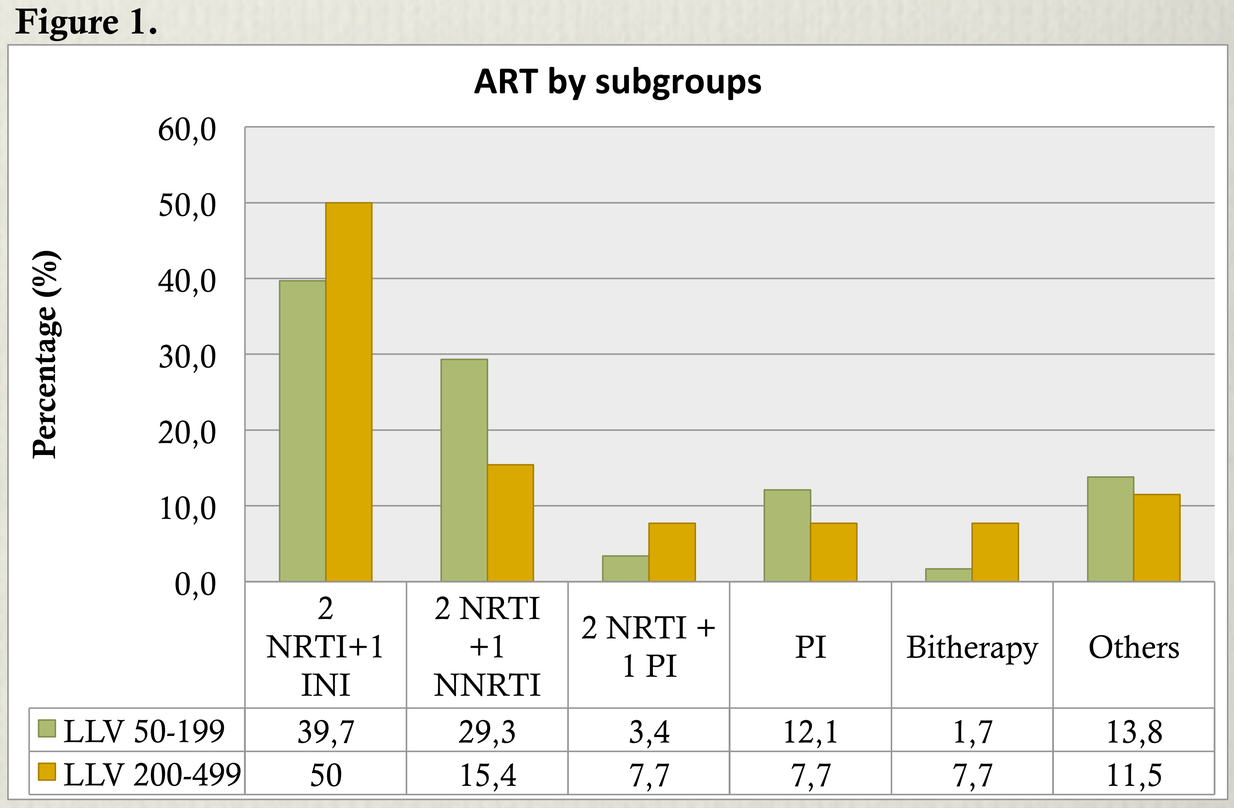
1354 patients had a VL available in 2017, 84 of them met LLV criteria corresponding to a prevalence of 6,2%: 4,3% with 50-199 copies/ml and 1,9% with LLV 200-499 copies/ml (basal characteristics are shown in table 1). 42,9% were on antiretroviral treatment (ART) with 2 nucleoside reverse transcriptase inhibitors (NRTI) + 1 integrase inhibitor (INI) (figure 1) and 33,3% had a previous virological failure. Mean follow-up was 11 months (Interquartile range of 6). 69% of patients had undetectable viral load during the follow-up. There were differences between LLV50-199 and LLV 200-499 in terms of diabetes prevalence, viral load prior to ART, previous mutations to non-nucleoside reverse transcriptase inhibitor (NNRTI), virogram performance (39,7% versus 80,8% respectively: p=0,001) and appearance of INI mutations (6,9% vs 3,8% respectively; p=0,02). Outcomes at follow-up by subgroups are shown in figure 2, there were no statistical diferences in any variable.

Table 1. Basal characteristics.

	Total (N=84)	LLV 50-199 (N=58)	LLV 200-499 (N=26)	P*
Male sex; n (%)	79 (94%)	55 (94,8%)	24 (92,3%)	0,6
Mean age (SD)	46,9 (10,9)	46,8 (9,9)	47,2 (12,9)	0,9
Coinfection HCV; n (%)	11 (13,1%)	9 (15,5%)	2 (7,7%)	0,5
Dyslipidemia; n (%)	24 (28,5%)	17 (29,3%)	7 (26,9%)	0,8
Hypertension; n (%)	11 (13,1%)	8 (13,8%)	3 (11,5%)	0,7
Diabetes mellitus; n (%)	8 (9,5%)	8 (13,8%)	0	0,05
Cirrhosis; n (%)	5 (5,9%)	5 (8,6%)	0	0,1
MSM; n (%)	65 (77,4%)	44 (75,9%)	21 (80,8)	0,4
AIDS; n (%)	38 (45,2%)	26 (44,8%)	12 (46,2%)	0,3
B subtype; n (%)	48 (57,1%)	32 (55,2%)	16 (61,5%)	0,4
VL prior to ART (log) mean (SD)	5,2 (0,7)	5,1 (0,7)	5,6 (0,7)	0,05
Previous mutations to NNRTI n (%)	25 (29,8%)	13 (22,4%)	12 (46,2%)	0,04

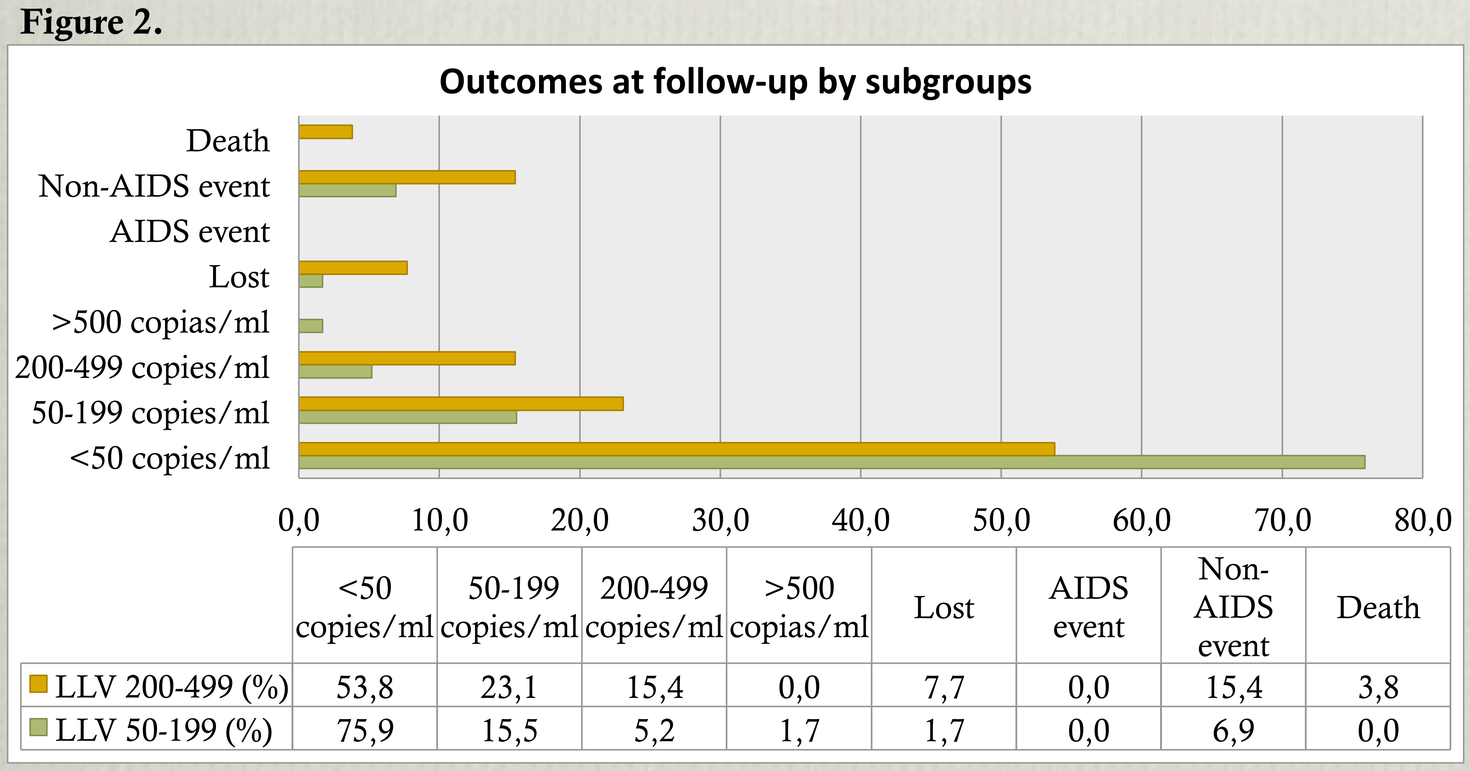
SD: standard deviation; HCV: hepatitis C virus; MSM: men who have sex with men; LLV: low level viremia

Figure 1.



NRTI: nucleoside reverse transcriptase inhibitors; NNRTI: non-nucleoside reverse transcriptase inhibitors; INI: integrase inhibitors; PI: protease inhibitor; LLV: low level viremia

Figure 2.



	<50 copies/ml	50-199 copies/ml	200-499 copies/ml	>500 copias/ml	Lost	AIDS event	Non-AIDS event	Death
LLV 200-499 (%)	53,8	23,1	15,4	0,0	7,7	0,0	15,4	3,8
LLV 50-199 (%)	75,9	15,5	5,2	1,7	1,7	0,0	6,9	0,0

Conclusions:

The prevalence of persistent LLV in our sample is similar to that described in previous series [4]. The appearance of persistent LLV is not negligible and the VL should be monitored closely, as well as evaluate adherence and the possible interactions.
In most cases LLV is not associated with ART resistance but it can lead to virological failure, with special attention to the development of INI resistance

The authors declare no conflicts of interest

References:

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