

LONG-TERM NON-PROGRESSOR (LTNP) HIV INFECTION. A CASE REPORT OF AN 81-YEAR-OLD WOMAN

Recebido em: 24/02/2023

Aceito em: 28/03/2023

DOI: 10.25110/arqsaude.v27i3.2023-005

Marcel Gonçalves Maciel¹
Francielle de Luna Souto²
Joyce Michele Souza de Souza³
Luiz Henrique Gonçalves Maciel⁴
Oberdan Henrique Moreira Tavares⁵
Michael Nosano Yakubu⁶

ABSTRACT: An 81-year-old woman, long-term non-progressor HIV infected, asymptomatic, not using ART, with a seven-year clinical follow-up in a reference unit, TCD4+ cell count values ranged from 719 to 1151 cells/ μ l, TCD8+ from 579 to 897 cells/ μ l and a viral load with higher value of 51 viral copies/ml but with undetectable results in most of the tests performed. The report of the long-term non-progressor HIV carrier aged over 80 years is somewhat unusual, considering the physiological/immunological changes that occur with the aging process concomitantly with HIV infection.

KEYWORDS: Long-Term Non-Progressor; HIV; Old Woman

INFEÇÃO POR HIV DE LONGO PRAZO NÃO PROGRESSOR (LTNP). RELATO DE CASO DE UMA MULHER DE 81 ANOS

RESUMO: Mulher de 81 anos, infectada pelo HIV há muito tempo, não progressor, assintomática, sem uso de TARV, com acompanhamento clínico de sete anos em unidade de referência, os valores de contagem de células TCD4+ variaram de 719 a 1151 células/ μ l, TCD8+ de 579 a 897 células/ μ l e uma carga viral com maior valor de 51 cópias virais/ml, mas com resultados indetectáveis na maioria dos testes realizados. O relato do portador de HIV de longa data não progressor com idade superior a 80 anos é um tanto incomum, considerando as alterações fisiológicas/imunológicas que ocorrem com o processo de envelhecimento concomitante à infecção pelo HIV.

PALAVRAS-CHAVE: Não Progressor de Longo Prazo; HIV; Idosa.

¹ PhD in Tropical and Infectious Diseases. Universidade do Estado do Amazonas (UEA). Universidade Federal do Amazonas (UFAM), Manaus-AM. Universidade do Estado do Pará (UEPA), Belém-PA.

E-mail: mgmaciел@uea.edu.br

² Specialist Infectologist. Fundação de Medicina Tropical Dr. Heitor Vieira Dourado.

E-mail: luna.souto@gmail.com

³ Graduate Student of Medicine. Faculdade de Medicina - Instituto Metropolitano de Ensino.

E-mail: michelessouza1@gmail.com

⁴ Master in Tropical and Infectious Diseases. Secretaria de Estado de Saúde do Amazonas (SES).

E-mail: luizmaciel.lh@gmail.com

⁵ Undergraduate Nursing Student. Universidade do Estado do Amazonas (UEA), Bolsista de Iniciação Científica da FAPEAM. E-mail: ohmt.enf17@uea.edu.br

⁶ PhD student in Tropical and Infectious Diseases, CNPq Fellow. Universidade do Estado do Amazonas (UEA). E-mail: nosano.yakubu@fuwukari.edu.ng

INFECCIÓN POR VIH NO PROGRESIVA A LARGO PLAZO (LTNP). REPORTE DE CASO DE UNA MUJER DE 81 AÑOS

RESUMEN: Mujer de 81 años, infectada por VIH no progresor de larga evolución, asintomática, no usuaria de TAR, con seguimiento clínico de siete años en una unidad de referencia, los valores de recuento de células TCD4+ oscilaron entre 719 y 1151 células/ μ l, TCD8+ de 579 a 897 células/ μ l y una carga viral con mayor valor de 51 copias virales/ml pero con resultados indetectables en la mayoría de las pruebas realizadas. El reporte de portadores de VIH no progresores a largo plazo mayores de 80 años es algo inusual, considerando los cambios fisiológicos/inmunitarios que ocurren con el proceso de envejecimiento concomitante con la infección por VIH.

PALABRAS CLAVE: No Progresor a Largo Plazo; VIH; Anciana.

1. INTRODUCTION

After four decades since its first notification in Brazil in 1982, human immunodeficiency virus (HIV) infection remains a public health problem, despite advances in treatment with the use of antiretroviral therapy (ART) and prevention measures (SOUZA et al, 2021), (NETO et al, 1983). In Brazil, among the aging population, the number of elderly people with HIV, people who acquired the infection before the age of 60 and those who contracted HIV in old age are increasing (BRASIL, 2017).

The progressive transformations that take place in tissues, organs and the immune system during the aging process of an individual due to the senescence process (GORONZY; WEYAND, 2013), make the prognosis of HIV infection in elderly people different compared to people who are not elderly, therefore, without the use of the ART, the progression to the AIDS phase in the elderly can happen more quickly due to immunosenescence. The natural history of HIV infection shows that there are individuals infected with long-term non-progressor (LTNP) HIV, as they have natural control of the viral infection without using ART and still remain asymptomatic for several years (SABIN; LUNDGREN, 2013).

This is the case of a long-term non-progressor HIV infection (LTNP) in an 81-year-old woman diagnosed at the Testing and Counseling Center (CTA) of a reference unit in the city of Manaus/AM.

2. CASE REPORT

A female patient, 81 years old, born in Rio Branco/AC, white, widow, retired, with incomplete elementary school and 11 children, residing in the east side of the city of Manaus/AM was referred from a basic health unit to the CTA. In her first consultation, she complained of cough, asthenia, and insomnia, she underwent tests that had the following results described in the table below (table 1).

After the HIV diagnosis, the patient was informed about the test results, received post-test instructions and was referred to the HIV/AIDS Specialized Care Service (SAE), in the same health unit to perform CD4+ count, Viral Load test and to start ART, which she couldn't due to her normal CD4+ count, Viral Load tests and clinical conditions (tables 2 and 3). Up till 2019 she regularly attended consultations at the infectology service from the health unit where she was undergoing clinical follow-up without using ART.

Table 1. Results of the diagnostic examinations performed at the CTA

Tests	Result	Date of request
Anti-HIV - Rapid test	Reactive	02/05/2012
Rapid test for HBsAg		02/05/2012
	Non-reactive	
Rapid test for Anti - HCV		02/05/2012
	Non-reactive	
ANTI - HIV - ELISA I	Reactive	13/02/2015
ANTI - HIV - ELISA I	Reactive	13/01/2016

Table 2. Results of the diagnostic examinations carried out in 2013-2015

Tests	20/06/2013	16/12/2013	30/09/2014	13/02/2015	22/12/2015
T CD4+	973 cells/ μ l	1060 cells/ μ l	1017 cells/ μ l	719 cells/ μ l	1151 cells/ μ l
T CD8+	720 cells/ μ l	687 cells/ μ l	737 cells/ μ l	579 cells/ μ l	897 cells/ μ l
VL	Not detectable	46 copies/ml	Not detectable	Not detectable	51 copies/ml

* VL: viral Load

Tabela 3. Results of the diagnostic examination carried out in 2016-2019

Tests	16/09/2016	11/05/2017	03/10/2017	22/03/2018	15/01/2019
T CD4+	797 cells/ μ l	936 cells/ μ l	836 cells/ μ l	1087 cells/ μ l	1025 cells/ μ l
T CD8+	597 cells/ μ l	796 cells/ μ l	813 cells/ μ l	757 cells/ μ l	590 cells/ μ l
VL	Not detectable	46 copies/ml	49 copies/ml	Not detectable	Not detectable

* VL: Viral Load

3. DISCUSSION

In long-term non-progressor HIV carriers, the immune system is able to control the viral infection, so there is no progression of viral load and depletion of the immune system, and these individuals remain immunocompetent, without morbidities and

asymptomatic for up to 25 years without the use of ART (SABIN; LUNDGREN, 2013), (BORREL et al, 2021).

During the period of clinical follow-up of this patient, the maintenance of high values of TCD4⁺ and TCD8⁺ cells was observed, with results ranging from 719 to 1,151 cells/ μ l and 579 to 897 cells/ μ l respectively, over a period of seven years of follow-up. This maintenance of high values of TCD4⁺ and TCD8⁺ cells is one of the characteristics in LTNP (POROPATICH; SULLIVAN, 2011), (GAARDBO, 2012) individuals, as well as the record of low viral load values, which in this case reported the maximum value of 51 viral copies, but with no detectable result in most of the tests performed.

The most effective cellular immune response, with high concentrations of antibodies with neutralizing activity, the non-suppression of NK cells with increased expression of D56⁺/CD16⁻ activating receptors of the NK cell subset, the presence of class I alleles of the human leukocyte antigen (HLA), the expression and plasma levels of antiviral cellular factors such as APOBEC3G, SAMDH1, TRIM5 α , BST-2, the heterozygosity for the deletion of 32 base pairs in the CCR5 gene, are factors that are attributed to the non-progression of HIV in LTNP (GEBARA; EL KAMARI; RISK, 2019), (ZHANG et al, 2021).

There are few descriptions of elderly LTNP in the literature, it is estimated that 1 to 5% of the total number of infected individuals are LTNP⁵, including all age groups. In Brazil, the HIV detection rate in the elderly in 2020 was 9.4 and 4.5 (per 100,000 hab.) in men and women, respectively (BRASIL, 2021). With the expansion of the HIV/AIDS pandemic, affecting individuals in different age groups, including the elderly, it brought new challenges related to diagnosis and adherence to the proposed treatment (TAVARES et al, 2019).

The report of a long-term non-progressor HIV carrier, aged over 80 years is somewhat unusual, considering the physiological/immunological changes that occur with the aging process concomitantly with HIV infection. With the recommendation of the immediate use of ART after the diagnosis of HIV, even in asymptomatic individuals regardless of the CD4⁺ T cell count, the tendency is that, in the future, patients infected with long-term non-progressor HIV will no longer be found. Identifying this group of HIV carriers over four decades of research on HIV/AIDS around the world, served to understand part of the natural history of the disease.

ACKNOWLEDGMENTS

This work was developed with the support of the Government of the State of Amazonas through the Fundação de Amparo à Pesquisa do Estado do Amazonas (FAPEAM), with the granting of a scientific initiation scholarship.

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