

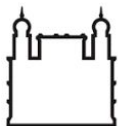
Webinário

Vírus linfotrópico de células T humanas (HTLV): a ameaça silenciosa e suas manifestações neurológicas

30 Nov, 2023, 13:00 GMT/10:00 BR/AR

Registre-se

Tradução simultânea
PT-ESP-ING



Ministério da Saúde

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Panel

Chair: Augusto César Penalva de Oliveira - Supervising Physician, Neurology Medical Team, Emílio Ribas Infectious Diseases Institute, Brazil

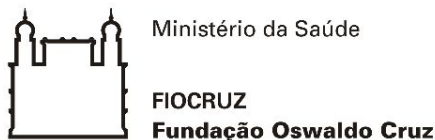
Steven Jacobson - Senior Investigator, Viral Immunology Section, Neuroimmunology and Neurovirology Division (NND), National Institutes of Health (NIH), USA

Lucia Brito - Neurophysiologist, Reference Center for the Care of Patients with Demyelinating Diseases, Restauração Hospital, Ministry of Health, Brazil

Carlos Pardo - Director, Johns Hopkins Myelitis & Myelopathy Center, Baltimore, Maryland, USA

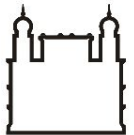
Clarice Neuenschwander - Senior Researcher at the Laboratory of Virology and Experimental Therapy, Fiocruz Pernambuco, Fiocruz, Brazil.

Cristiane Campello Bresani – Senior Researcher at the Laboratory of Virology and Experimental Therapy, Fiocruz Pernambuco, Fiocruz, Brazil.



Resources

- <https://portal.fiocruz.br/en>
- <https://fiocruz.tghn.org/>
- <https://lac.tghn.org/>
- <https://www.instagram.com/HTLVBrasil/>
- <https://www.gov.br/aids/pt-br/assuntos/ist/htlv>
- <https://fiocruz.tghn.org/health-topics/neuroinfeccoes/grupo-neuroinfeccoes/>



Ministério da Saúde

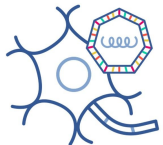
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Other neurological manifestations of HTLV

Dr Prof Carlos A. Pardo, MD

Johns Hopkins Myelitis & Myelopathy Center
Divisions of Neuroimmunology, Neuroinfectious Disorders and
Advanced Clinical Neurology, Johns Hopkins University School of
Medicine, USA



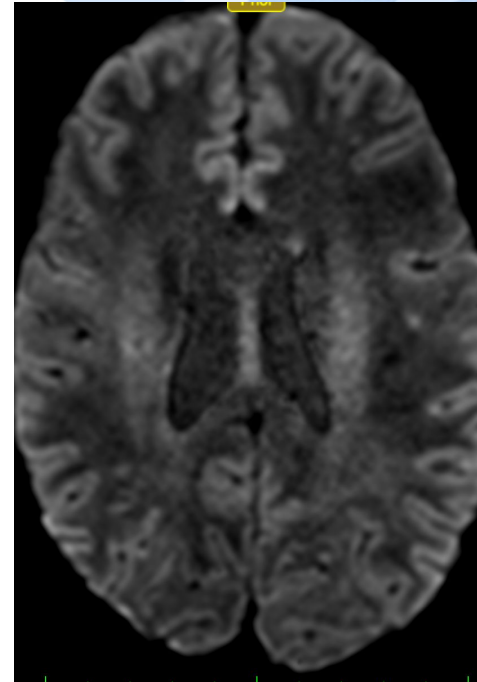
NEAS
*Neuroinfections
Emerging in the
Americas Study*



HTLV-1 in the nervous system: More than TSP/HAM!!

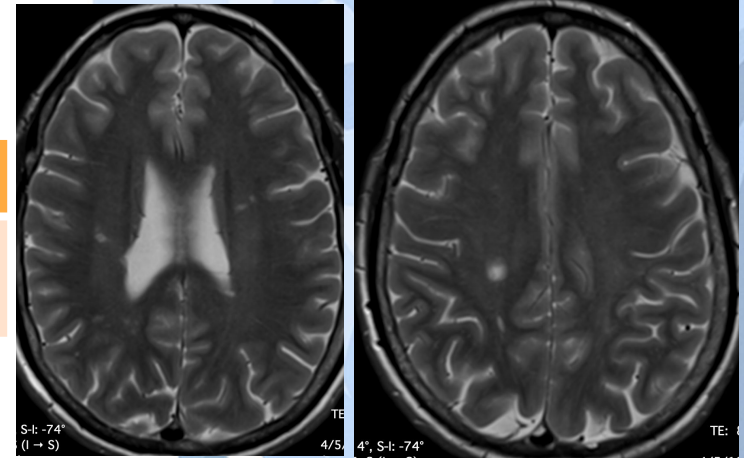
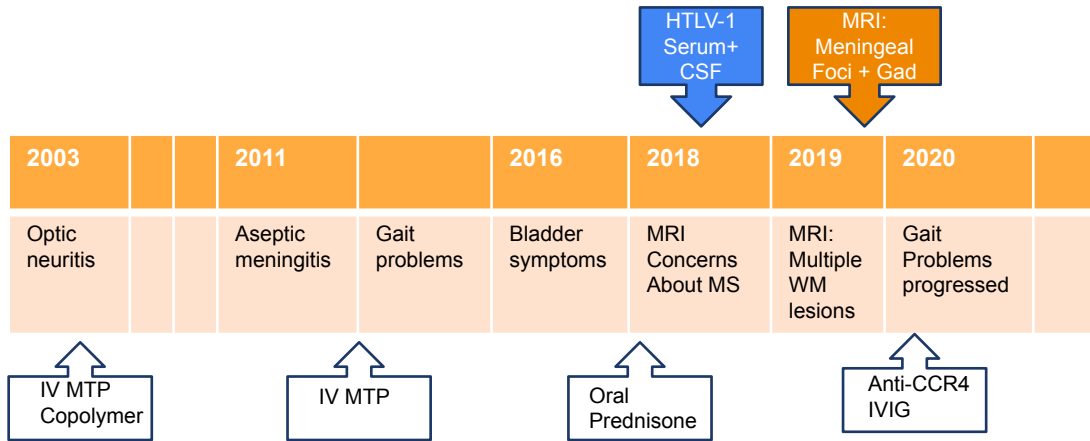
Retroviruses may target diverse groups of cells and structures of the nervous system!!

- **HTLV-1-associated neurological disorders**
 - **HTLV-1-Associated Myelopathy (HAM)**
 - Acute/subacute HAM
 - Chronic HAM
 - **HTLV-1-Associated Encephalopathy**
 - **HTLV-1-leukoencephalitis/white matter disease**
 - HTLV-1-associated optic neuritis



HTLV-1 in the nervous system: More than TSP/HAM!!

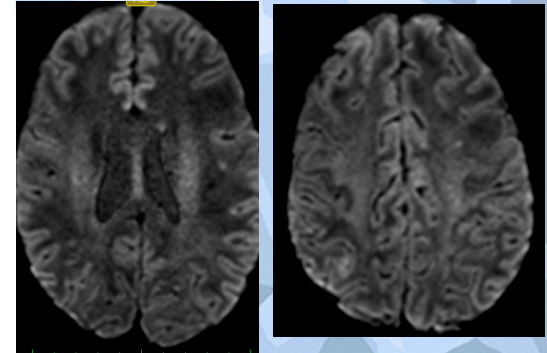
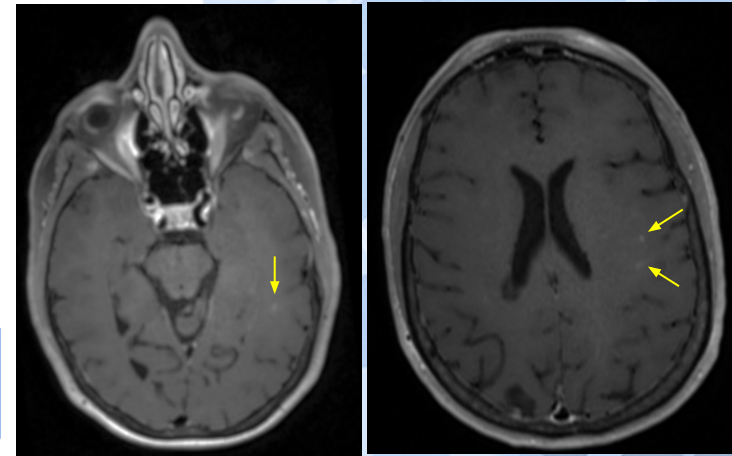
A 54-yo woman with a remote history of optic neuritis and concerns for a demyelinating disorder



HTLV-1 in the nervous system: More than TSP/HAM!!

A 54-yo woman with a remote history of optic neuritis and concerns for a demyelinating disorder

HTLV/1 proviral load in blood was 9% (up from 6.9%), 48% in CSF, protein 60 mg/dL, 4 WBC, positive oligoclonal bands.



Brain MRI T2W 2019

HTLV-1 Serum+ CSF
MRI: Meningeal Foci + Gad

2003		2011		2016	2018	2019	2020	
Optic neuritis		Aseptic meningitis	Gait problems	Bladder symptoms	MRI Concerns About MS	MRI: Multiple WM lesions	Gait Problems progressed	

IV MTP Copolymer

IV MTP

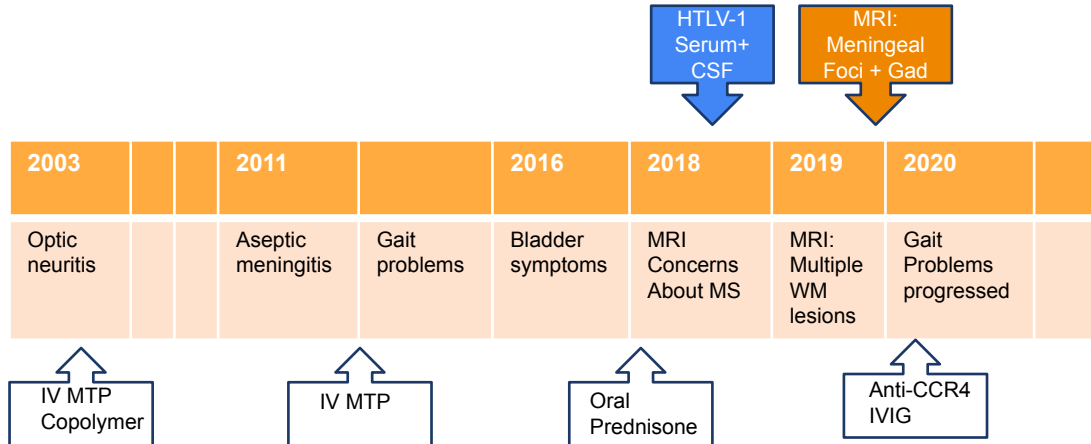
Oral Prednisone

Anti-CCR4 IVIG

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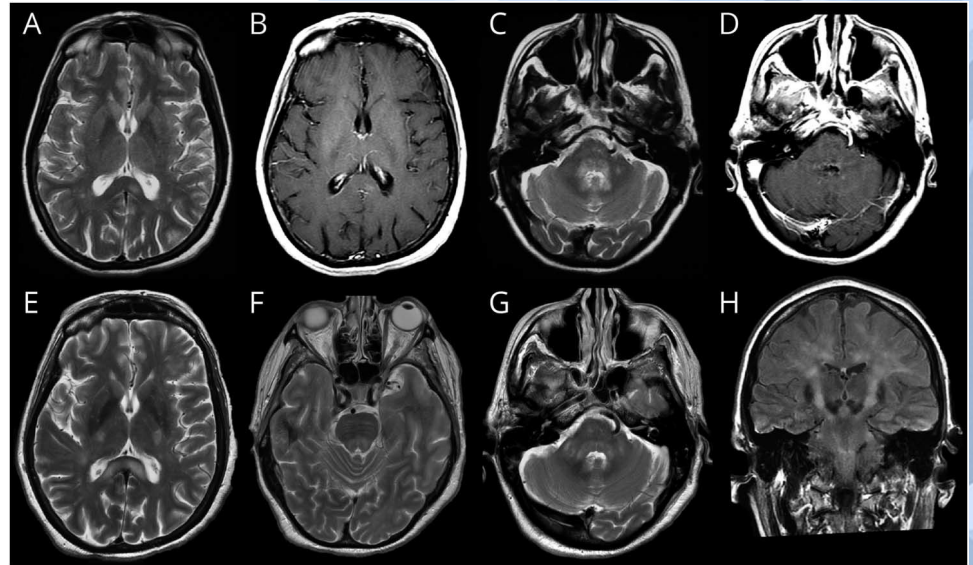


- **HTLV-1-associated neurological disorders**
 - **HTLV-1-Associated Myelopathy (HAM)**
 - Chronic HAM
 - **HTLV-1-leukoencephalitis /white matter disease**
 - **HTLV-1-associated optic neuritis**

HTLV-1 in the nervous system: More than TSP/HAM!!

Retroviruses may target diverse groups of cells and structures of the nervous system!!

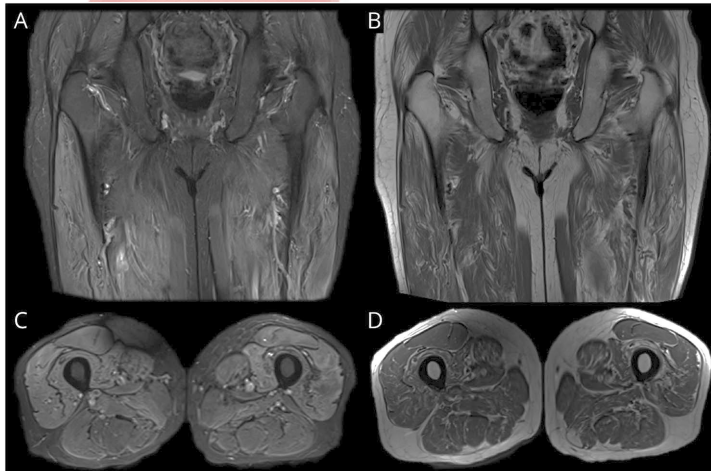
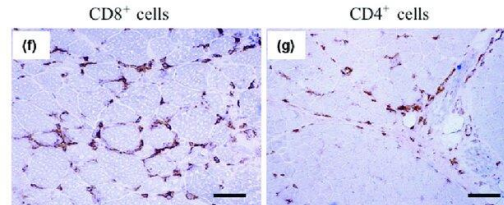
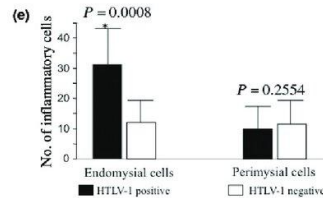
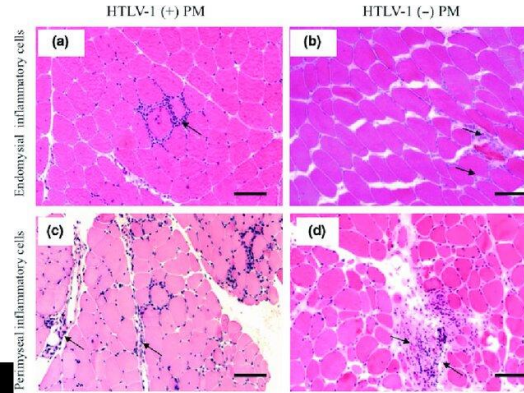
- HTLV-1-associated neurological disorders
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 - HTLV-1-associated optic neuritis



From: Dixon L. et al. Imaging Spectrum of HTLV-1-Related Neurological Disease
Neurology: Clinical Practice
2023; 13:e200147 doi:10.1212/CPJ.000000000000200147

HTLV-1 in the nervous system: More than TSP/HAM!!

- HTLV-1-associated neuromuscular disorders
 - HTLV-1-associated myositis
 - HTLV-1-associated neuritis/neuropathy



HTLV-1 Associated Myositis

- Prolonged clinical course
- Prominent endomyosial infiltrates
- Infrequent necrotic fibers
- Prominent regenerative activity
- Cytochrome c oxidase deficiency
- Mitochondrial abnormalities

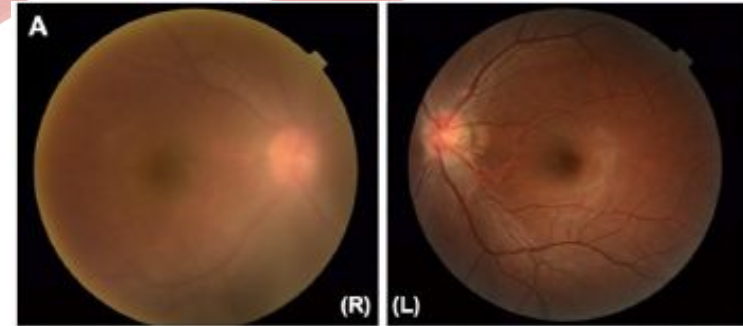
Abdulla HM et al.
Clin Exp Neuroimmunol 2:12-24, 2011

HTLV-1 in the nervous system: More than TSP/HAM!!

Retroviruses may target diverse groups of cells and structures of the nervous system!!

- **HTLV-1-associated neuro-ophthalmologic disorders**
 - Acute T-cell leukemia/lymphoma (ATL) ocular disease
 - HTLV-1-associated uveitis
 - HTLV-1-associated optic neuritis
- **HTLV-1-associated neuromuscular disorders**
 - HTLV-1-associated myositis
 - HTLV-1-associated neuritis/neuropathy

HTLV-1 Uveitis



From Koju Kamoi. *Frontiers in Microbiology*
Doi: 10.3389/fmicb.2020.00388

ATL-related ocular manifestations	n = 48	%
Intraocular infiltration	22	45.8
Opportunistic infection	19	39.6
(Cytomegalovirus)	(19)	(100.0)
(Herpesvirus)	(2)	(10.5)
(Toxoplasma)	(1)	(5.3)
Dry eye	3	6.3
Scleritis	2	4.2
Uveitis	1	2.1
Anemic retinopathy	1	2.1

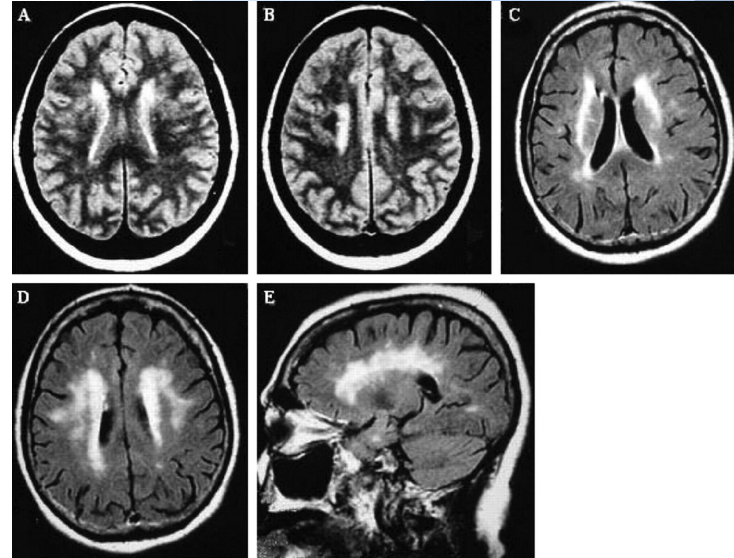
HTLV-1 in the nervous system: More than TSP/HAM!!

The problem of overlapping syndromes

- HTLV-1-associated neurological disorders may overlap with:
 - Multiple sclerosis
 - Neuromyelitis optica
 - HIV/AIDS
 - Others

[Differentiation of HAM/TSP from patients with multiple sclerosis infected with HTLV-I.](#)

Puccioni-Sohler M, et.a; Neurology. 2007 68(3):206-13.
doi: 10.1212/01.wnl.0000251300.24540.c4.PMID: 17224575



The high proviral load in peripheral blood mononuclear cells or in CSF or both may be a good marker of human T lymphotropic virus type I (HTLV-I)-associated myelopathy/tropical spastic paraparesis (HAM/TSP) and can differentiate patients with HAM/TSP from patients with multiple sclerosis infected with HTLV-I.

HTLV-1 in the nervous system: More than TSP/HAM!!

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 - **HIV/AIDS**
 - Others

HIV/HTLV-1 coinfection:

- Accelerated progression to AIDS
- Worse outcomes of HIV-related opportunistic infections.
- HTLV-1 induces HIV viral replication and the transition from M- to T-tropic HIV phenotype
- HIV/HTLV-1-coinfected individuals have higher production of proinflammatory cytokines, most notably interleukin 2 and interferon- γ
- **Neurological manifestations like encephalopathy, peripheral neuropathy, and HAM/TSP were more frequently reported in coinfecting patients.**

Clinical and Laboratory Outcomes in HIV-1 and HTLV-1/2 Coinfection: A Systematic Review. Montano I., et. al., Frontiers in Public Health 2022.

