

Neurology[®]

The most widely read and highly cited peer-reviewed neurology journal
The Official Journal of the American Academy of Neurology



Neurology Publish Ahead of Print

DOI: 10.1212/WNL.000000000206759

"Glass Eel" Sign in Chikungunya Myelopathy

Author(s):

Paulo Ribeiro Nobrega, MD, MSc¹; Pedro Helder Junior, MD¹; Gabriela Studart Galdino, MD, MSc²; Daniel Aguiar Dias, MD³; José Daniel Vieira Castro, MD, PhD³

Corresponding Author:

Paulo Ribeiro Nobrega, paulo_r_med@yahoo.com.br

Affiliation Information for All Authors: 1. Division of Neurology, Department of Clinical Medicine, Federal University of Ceará, Brazil; 2. Department of Clinical Medicine, Federal University of Ceará, Brazil; 3. Division of Radiology, Federal University of Ceará, Brazil.

Equal Author Contribution:

Neurology[®] Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.

Contributions:

Paulo Ribeiro Nobrega: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data

Pedro Helder Junior: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data

Gabriela Studart Galdino: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data

Daniel Aguiar Dias: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data

José Daniel Vieira Castro: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data

Figure Count:

1

Table Count:

0

Search Terms:

[120] MRI, [135] All Infections, [142] Viral infections, Chikungunya, Myelopathy

Acknowledgment:**Study Funding:**

The authors report no targeted funding

Disclosures:

The authors report no disclosures relevant to the manuscript.

Preprint DOI:**Received Date:**

2022-09-08

Accepted Date:

2022-11-16

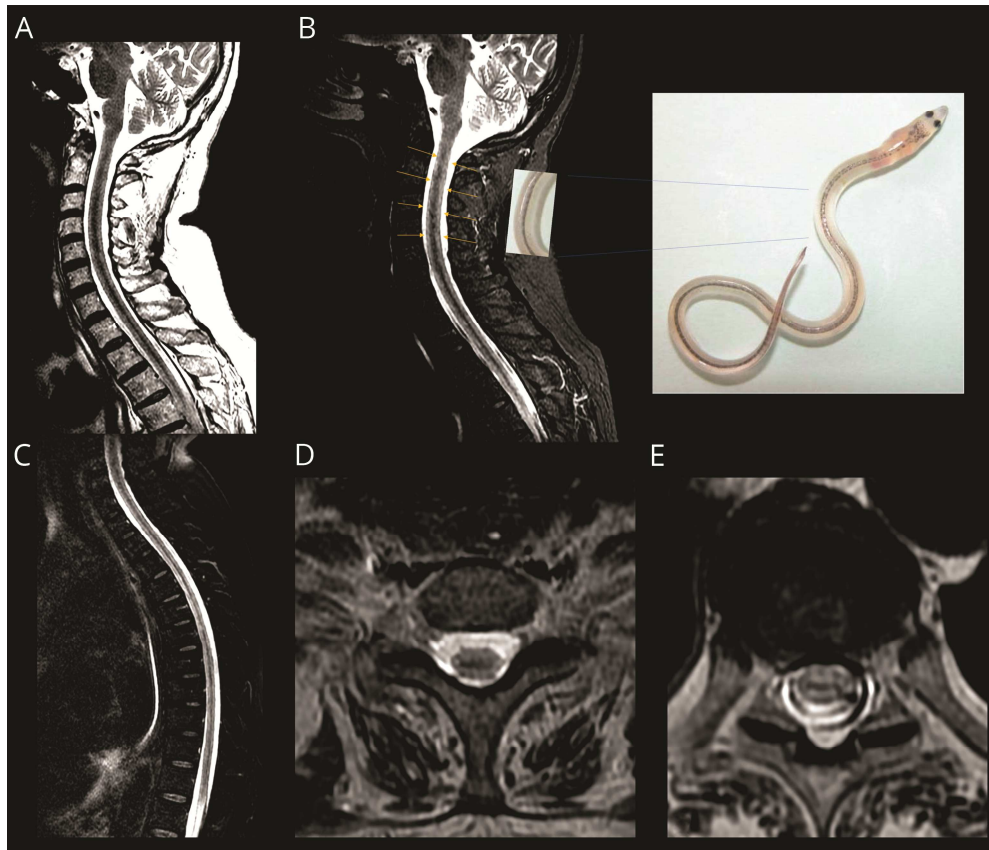
Handling Editor Statement:

Submitted and editor reviewed. The handling editor was Editor-in-Chief José G. Merino, MD, MPhil, FAHA, FAAN.

A 69-year-old female patient presented with acute lower limb weakness and urinary retention progressing to quadriparesis and dyspnea within days. She reported fever, arthralgia, myalgia, and headache for six days before the beginning of neurological symptoms. Neurologic examination showed severe quadriparesis, extensor plantar responses and a cervical sensory level. Magnetic resonance (Figure) revealed longitudinally extensive hypersignal on the peripheral zone of the spinal cord on sagittal T2 images, sparing the central grey matter and resembling a “glass eel”. Cerebrospinal fluid showed 10cells/mm³. Serology was positive for Chikungunya. She was treated with methylprednisolone and plasmapheresis and recovered arm movements after 1 month. A peripheral pattern of longitudinally extensive myelopathy has been reported in Chikungunya¹. Circumferential myelopathy sparing the central gray matter has not been consistently reported in other infectious myelitis². Presence of the virus has been demonstrated in perivascular spaces, which might explain the predominance of lesions along perivascular distributions¹.

Figure 1: Peripheral T2 hyperintensity in Chikungunya myelopathy.

MRI showing longitudinally extensive peripheral hypersignal (arrows) of the entire spinal cord on sagittal T2 (A) and STIR (B and C), resembling a “glass eel” - detail. Axial T2 images at the levels of T1 (D) and T7 (E) showing peripheral hyperintensity sparing the central grey matter.



References

1. Rueda-Lopes FC, da Cruz LCH, Fontes FL, Herlinger AL, da Costa Ferreira Junior O, de Aguiar RS, Vasconcelos CCF, do Nascimento OJM, Alves-Leon SV. Clinical and magnetic resonance imaging patterns of extensive Chikungunya virus-associated myelitis. *J Neurovirol.* 2021 Aug;27(4):616-625. doi: 10.1007/s13365-021-00962-4. Epub 2021 Jul 5. PMID: 34227044.
2. Yokota H, Yamada K. Viral infection of the spinal cord and roots. *Neuroimaging Clin N Am.* 2015 May;25(2):247-58. doi: 10.1016/j.nic.2015.01.005. Epub 2015 Mar 3. PMID: 25952176.

Neurology®

"Glass Eel" Sign in Chikungunya Myelopathy

Paulo Ribeiro Nobrega, Pedro Helder Junior, Gabriela Studart Galdino, et al.

Neurology published online December 22, 2022

DOI 10.1212/WNL.0000000000206759

This information is current as of December 22, 2022

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/early/2022/12/22/WNL.0000000000206759.citation.full
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Infections http://n.neurology.org/cgi/collection/all_infections MRI http://n.neurology.org/cgi/collection/mri Viral infections http://n.neurology.org/cgi/collection/viral_infections
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://www.neurology.org/about/about_the_journal#permissions
Reprints	Information about ordering reprints can be found online: http://n.neurology.org/subscribers/advertise

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2022 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

