

OPEN

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.000000000206889

Teaching NeuroImage: Primary Central Nervous System Vasculitis Mimicking Intracranial Tumor

Author(s): Hanlin Sun, M.D.¹; Shujiang Zhang, M.D.¹; Tianping Yu, M.D.²; Dong Zhou, PH.D.¹; Jinmei Li, PH.D.¹

Corresponding Author: Jinmei Li, lijnmei@wchscu.cn

Affiliation Information for All Authors: 1. Department of Neurology, West China Hospital, Sichuan University, Chengdu, Sichuan, China; 2. Department of Pathology, West China Hospital, Sichuan University, Chengdu, Sichuan, China

Equal Author Contribution:

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License 4.0 (CC BY-NC-ND), which permits downloading and sharing the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

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:

Hanlin Sun: 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

Shujiang Zhang: Analysis or interpretation of data

Tianping Yu: Analysis or interpretation of data

Dong Zhou: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data

Jinmei Li: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data; Additional contributions: -

Figure Count: 2**Table Count:** 0**Search Terms:**

[120] MRI, [134] Vasculitis

Acknowledgment:

Study Funding: The authors report no targeted funding

Disclosures: The authors report no disclosures relevant to the manuscript.

Preprint DOI:

Received Date: 2022-07-22

Accepted Date:

2022-12-20

Handling Editor Statement:

Submitted and externally peer reviewed. The handling editor was Resident and Fellow Section Editor Whitley Aamodt, MD, MPH.

A 21-year-old man with headache, vomiting, and limb weakness presented to the clinic in two years ago. Examination showed paresthesia and weakness in left upper and lower limbs. Brain MRI demonstrated a large space-occupying lesion with ring enhancement and compression of the right fronto-tempo-parietal lobes (Figure 1, A - B). The patient underwent surgery for a presumed glioblastoma. Pathological examination revealed primary central vasculitis (PCNSV) without neoplasm (Figure 2). His screening workup for systemic vasculitis were negative. Symptoms improved after a corticosteroid taper. After stopping immunosuppressive therapy for one year, new lesions were found again in the right frontotemporal lobe (Figure 1, C - D). Corticosteroids and mycophenolate mofetil were given, and the patient's symptoms significantly improved and lesions on MRI had subsided significantly (Figure 1, E - F). MRI findings of PCNSV frequently present as nonspecific white matter lesions¹. It can mimic glioblastoma², CNS lymphoma and tumefactive multiple sclerosis¹.

Appendix 1: Authors

Name	Location	Contribution
Hanlin Sun ,M.D.	West China Hospital , Sichuan University	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
Shujiang	West China Hospital , Sichuan University	Analysis or interpretation of data
Zhang ,M.D.	Sichuan University	Analysis or interpretation of data
Tianping Yu ,M.D.	West China Hospital , Sichuan University	Analysis or interpretation of data
Dong Zhou, Ph.D.	West China Hospital , Sichuan University	Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data
Jinmei Li, Ph.D.	West China Hospital , Sichuan University	Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data

<http://links.lww.com/WNL/C640>

Reference:

1. Hajj-Ali RA, Calabrese LH. Central nervous system vasculitis: advances in diagnosis. *Curr Opin Rheumatol* 2020;32:41-46.
2. Jin H, Qu Y, Guo Z-N, Cui G-Z, Zhang F-L, Yang Y. Primary Angiitis of the Central Nervous System Mimicking Glioblastoma: A Case Report and Literature Review. *Front Neurol* 2019;10:1208.

Figure legends:

Figure 1 .MRI of Brain

Brain MRI demonstrates hyperintense irregular mass within the right frontotemporal and parietal lobes with perifocal edema and ring enhancement (A-B). A lesion appeared in the right frontotemporal lobe and corpus callosum, the anterior horn of the right ventricle was significantly compressed (C-D). MRI lesion largely disappeared after immunosuppressant therapy (E-F)

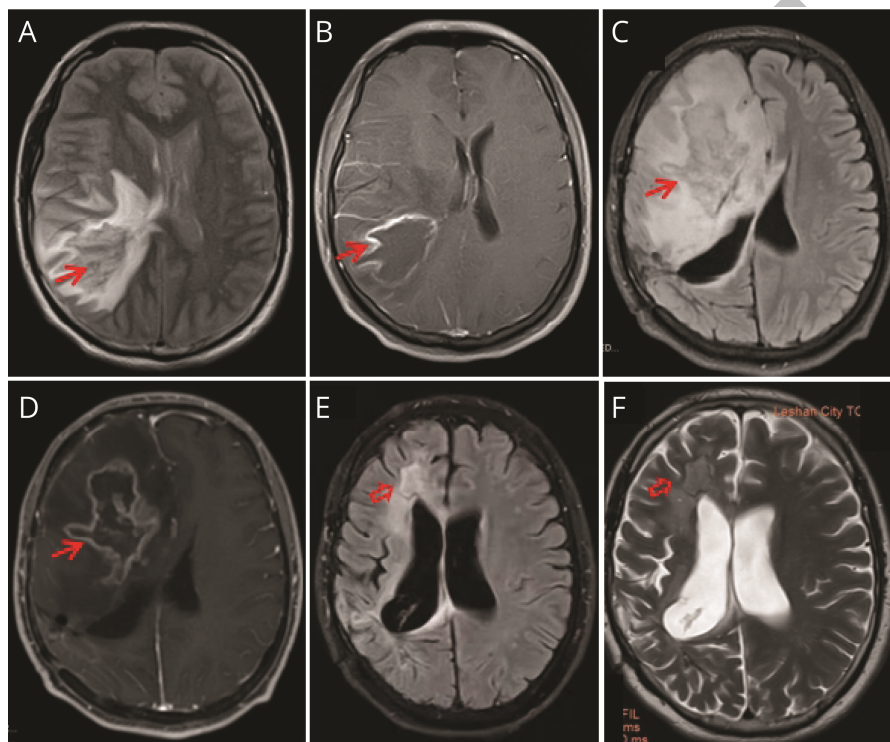
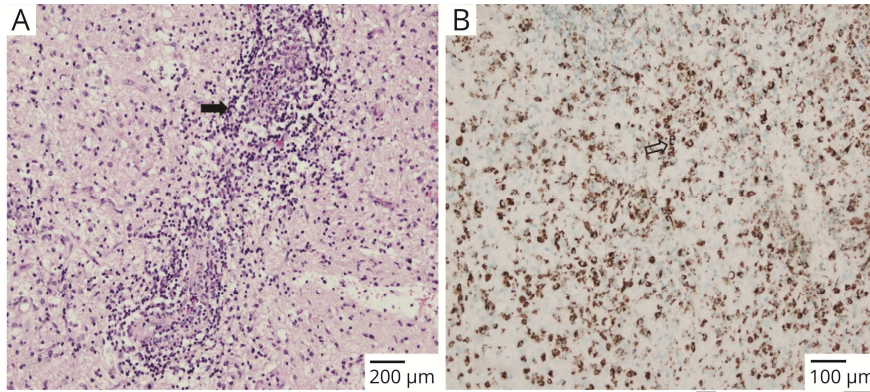


Figure 2. The pathology slide

H&E (A) showed necrosis of small blood vessels with perivascular infiltrates of lymphocytes. Anti-CD68 immunostain (B) demonstrating macrophages expression.



Neurology[®]

Teaching NeuroImage: Primary Central Nervous System Vasculitis Mimicking Intracranial Tumor

Hanlin Sun, Shujiang Zhang, Tianping Yu, et al.
Neurology published online February 7, 2023
DOI 10.1212/WNL.0000000000206889

This information is current as of February 7, 2023

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/early/2023/02/07/WNL.0000000000206889.citation.full
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): MRI http://n.neurology.org/cgi/collection/mri Vasculitis http://n.neurology.org/cgi/collection/vasculitis
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 © 2023 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of the American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

