

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.0000000000207761

Teaching Video NeuroImage: Dural Angioleiomyoma: Insights From Dynamic Imaging

Author(s):

Thomas Leclerc, MD^{1,2}; Catherine Oppenheim, MD-PhD^{1,2}; Arnault Tauziède-Espariat^{2,3}; Hélène Charpentier, MD⁴; Johan Pallud^{2,5}; Joseph Benzakoun, MD, PhD^{1,2}

Corresponding Author:

Joseph Benzakoun, j.benzakoun@ghu-paris.fr

Affiliation Information for All Authors: 1. Radiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, F-75014 Paris, France; 2. Université Paris Cité, Institute of Psychiatry and Neuroscience of Paris (IPNP), INSERM U1266, F-75014 Paris, France; 3. Neuropathology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, F-75014 Paris, France; 4. Radiology Department, CHU Besançon, 25000 Besançon, France; 5. Neurosurgery Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, F-75014 Paris, France

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.

Equal Author Contribution:**Contributions:**

Joseph Benzakoun: 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; Additional contributions (in addition to one or more of the above criteria)

Thomas Leclerc: 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; Additional contributions (in addition to one or more of the above criteria)

Catherine Oppenheim: 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; Additional contributions (in addition to one or more of the above criteria)

Arnault Tauziède-Espariat: Major role in the acquisition of data; Analysis or interpretation of data; Additional contributions (in addition to one or more of the above criteria)

Hélène Charpentier: Major role in the acquisition of data; Additional contributions (in addition to one or more of the above criteria)

Johan Pallud: Major role in the acquisition of data; Analysis or interpretation of data; Additional contributions (in addition to one or more of the above criteria)

Figure Count:

1

Table Count:

0

Search Terms:

[130] Volumetric MRI, [214] Primary brain tumor

Acknowledgment:**Study Funding:**

The authors report no targeted funding.

Disclosure:

The authors report no relevant disclosures.

Preprint DOI:**Received Date:**

2023-05-04

Accepted Date:

2023-06-26

Handling Editor Statement:

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

Manuscript

A 47-year-old man with unremarkable medical history presented with mild dull occipital headaches for 7 months, without other neurologic changes. Structural MRI showed an extra-parenchymal, well-delineated left cerebellar lesion with partial post-gadolinium enhancement (Figure). Exploration with T1-weighted perfusion (Video) revealed a progressive, centrifugal enhancement with slow contrast filling, rapid near the center but slower toward outer edges, suggesting a benign mesenchymal tumor. Absence of mass effect and cerebellar symptoms further supported a slow-growing tumor. A surgical removal was performed. Neuropathologic examination revealed a well-circumscribed lesion with smooth muscle cells and vascular cavities, indicating dural angioleiomyoma (Figure). Dural angioleiomyoma is a rare benign tumor, with <80 cases reported in a recent literature review (1), related to soft tissue angioleiomyomas. Partial and flame-like enhancement arising from the tumor base and extending to its periphery appears to be the most typical imaging characteristic (2), and dynamic contrast-enhanced sequence may aid envisioning diagnosis preoperatively.

Legends

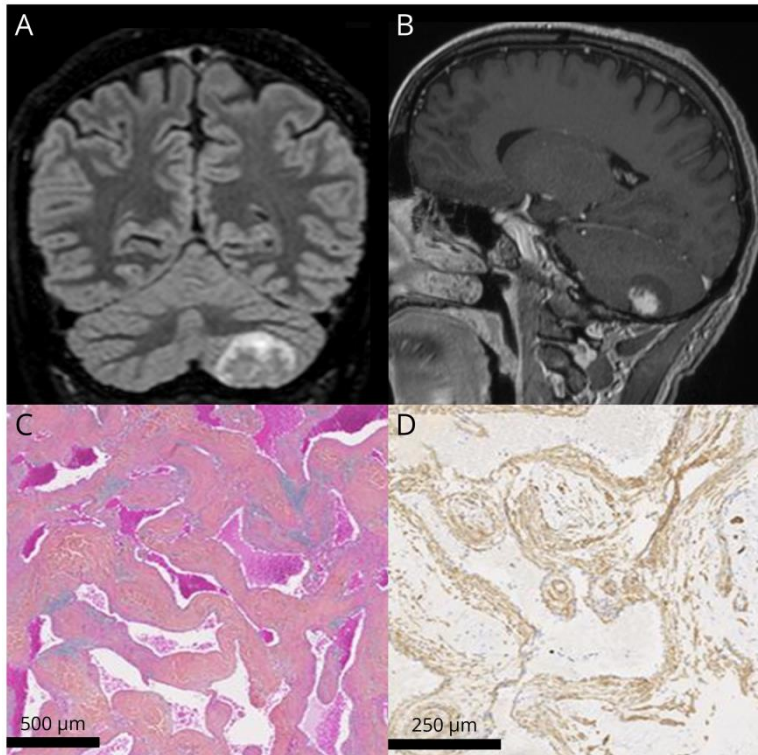
Video: Dynamic study

Dynamic contrast-enhanced T1-weighted coronal view of a left cerebellar mass, displaying centrifugal enhancement

Figure: MRI and neuropathology

MRI: coronal T2-FLAIR (A) and contrast-enhanced T1-weighted sagittal (B) views;

Neuropathology: anfractuous vascular cavities separated by muscular walls (Hematoxylin-Phloxin-Saffron) (C); Immunohistochemical analysis: smooth muscle cells labeled with anti-actin antibodies (D).



WNL-2023-001831_vid1 --- <http://links.lww.com/WNL/D33>

Bibliography :

1. Tauziède-Espariat A, Pierre T, Wassef M, et al. The dural angioleiomyoma harbors frequent GJA4 mutation and a distinct DNA methylation profile. *Acta Neuropathol Commun.* 2022;10:81.
2. Sun L, Zhu Y, Wang H, et al. Angioleiomyoma, a rare intracranial tumor: 3 case report and a literature review. *World J Surg Oncol.* 2014;12:216.

Neurology[®]

Teaching Video NeuroImage: Dural Angioleiomyoma: Insights From Dynamic Imaging

Thomas Leclerc, Catherine Oppenheim, Arnault Tauziède-Espariat, et al.

Neurology published online August 14, 2023

DOI 10.1212/WNL.0000000000207761

This information is current as of August 14, 2023

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/early/2023/08/14/WNL.0000000000207761.citation.full
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Primary brain tumor http://n.neurology.org/cgi/collection/primary_brain_tumor Volumetric MRI http://n.neurology.org/cgi/collection/volumetric_mri
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 American Academy of Neurology. Unauthorized reproduction of this article is prohibited. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

