Cutaneous Lesions as a Clue to the Etiology of Extensive Intracranial Calcifications

Aicardi-Goutières Syndrome

Yi-Heng Zeng, MD, Miao Zhao, MD, PhD, Xin-Xin Guo, MD, PhD, Ning Wang, MD, PhD, and Wan-Jin Chen, MD, PhD

Neurology[®] 2022;98:417-418. doi:10.1212/WNL.00000000013294

Correspondence

Dr. Chen wanjinchen75@fjmu.edu.cn

Figure Brain CT and Cutaneous Findings in Aicardi-Goutières Syndrome



(A–C) Brain CT reveals severe and extensive bilateral intracranial calcifications in the basal ganglia, thalamus, cerebellum, and subcortical white matter. (D) Dermatology examination uncovers small hypopigmented macules in the dorsal aspect of both hands.

A 29-year-old man presented with an 18-year history of progressive spastic gait and bizarre behaviors (Video 1). Cerebral palsy was initially suspected. Brain CT (Figure, A–C) showed extensive intracranial calcifications. Serum parathyroid hormone, calcium, and phosphate levels were normal. Hypopigmented macules were uncovered on the dorsal hands, which developed



From the Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China.

Go to Neurology.org/N for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

The Article Processing Charge was funded by the authors.

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.

since age 6 (Figure, D). Genetic testing revealed a pathogenic heterozygous p.Gly1007Arg variant in *ADAR1*, confirming Aicardi-Goutières syndrome 6 (AGS6).¹

AGS is an autoinflammatory disease characterized by childhood-onset systemic inflammation with encephalopathy and cutaneous lesions due to enhanced type I interferon signaling.² Intracranial calcifications with cutaneous lesions should raise suspicion of AGS.

Acknowledgment

The authors thank the patient and his family.

Study Funding

Supported by grants 82025012 and U1905210 from the National Natural Science Foundation of China and grant 2019J02010 from the Natural Science Foundation of Fujian Province (W.-J.C.).

Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

Appendix Authors

Name	Location	Contribution
Yi-Heng Zeng, MD	Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China	Drafting/revision of the manuscript for content, including medical writing for content; analysis or interpretation of data

Name	Location	Contribution
Miao Zhao, MD, PhD	Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China	Major role in the acquisition of data
Xin-Xin Guo, MD, PhD	Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China	Major role in the acquisition of data; analysis or interpretation of data
Ning Wang, MD, PhD	Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China	Study concept or design
Wan-Jin Chen, MD, PhD	Department of Neurology and Institute of Neurology of First Affiliated Hospital, Institute of Neuroscience, and Fujian Key Laboratory of Molecular Neurology, Fujian Medical University, Fuzhou, China	Study concept or design

References

- Rice GI, Kasher PR, Forte GM, et al. Mutations in ADARI cause Aicardi-Goutières syndrome associated with a type I interferon signature. Nat Genet. 2012;44(11): 1243-1248.
- Crow YJ, Hayward BE, Parmar R, et al. Mutations in the gene encoding the 3'-5' DNA exonuclease TREX1 cause Aicardi-Goutières syndrome at the AGS1 locus. *Nat Genet*. 2006;38(8):917-920.

Disputes & Debates: Rapid Online Correspondence

The editors encourage comments on recent articles through Disputes & Debates:

Access an article at Neurology.org/N and click on "MAKE COMMENT" beneath the article header.

Before submitting a comment to Disputes & Debates, remember the following:

- Disputes & Debates is restricted to comments about articles published in *Neurology* within 6 months of issue date, but the editors will consider a longer time period for submission if they consider the letter a significant addition to the literature
- Read previously posted comments; redundant comments will not be posted
- Your submission must be 200 words or less and have a maximum of 5 references; the first reference must be the article on which you are commenting
- You can include a maximum of 5 authors (including yourself)

Neurology®

Cutaneous Lesions as a Clue to the Etiology of Extensive Intracranial Calcifications: Aicardi-Goutières Syndrome

Yi-Heng Zeng, Miao Zhao, Xin-Xin Guo, et al. Neurology 2022;98;417-418 Published Online before print January 7, 2022 DOI 10.1212/WNL.000000000013294

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/98/10/417.full
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/98/10/417.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Genetics http://n.neurology.org/cgi/collection/all_genetics All Immunology http://n.neurology.org/cgi/collection/all_immunology CT http://n.neurology.org/cgi/collection/ct
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

This information is current as of January 7, 2022

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 Copyright © 2022 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.

