Teaching NeuroImages: Artery of Percheron aneurysm masquerading as ICH spot sign

Armen J. Moughamian,
MD, PhD
Ramin A. Morshed, MD
Rene A. Colorado, MD,
PhD
Zachary Liner, MD
Daniel Cooke, MD
J. Claude Hemphill, MD

Correspondence to
Dr. Moughamian:
armen.moughamian@ucsf.edu

Figure 1 CT and CT angiography (CTA) of the brain at presentation

(A) Axial and coronal noncontrast CT brain images show a hemorrhage centered in the left thalamus. (B) Axial CTA shows a focal area of contrast enhancement within the hemorrhage suggestive of an intracerebral hemorrhage spot sign and coronal images demonstrate a prominent posterior thalamo-perforating artery near this spot sign (arrow).

A 50-year-old Japanese woman presented with left thalamic intracerebral hemorrhage (ICH). CT angiography demonstrated an ICH spot sign and intracranial vasculopathy consistent with Moyamoya disease (figure 1). Conventional angiography demonstrated that the spot sign was actually a pseudoaneurysm arising from the artery of Percheron (figure 2). Intracranial aneurysms may complicate Moyamoya disease and occur at the circle of Willis, distal peripheral arteries, or Moyamoya vessels at a ratio of 3:1:1.¹ Aneurysms in

thalamo-perforating arteries are rare² and an artery of Percheron aneurysm in Moyamoya disease has not been reported. In Moyamoya disease, presence of a spot sign should prompt consideration for angiography.

AUTHOR CONTRIBUTIONS

Armen J. Moughamian: wrote and revised the manuscript for intellectual content. Ramin A. Morshed: prepared figures, revised manuscript for intellectual content. Rene A. Colorado: revised manuscript for intellectual content. Zachary Liner: revised manuscript for intellectual content. Daniel Cooke: revised manuscript for intellectual

Download teaching slides:
Neurology.org

From the Departments of Neurology (A.J.M., R.A.C., J.C.H.), Neurological Surgery (R.A.M.), and Radiology (Z.L., D.C.), University of California, San Francisco.

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

Figure 2 Cerebral angiogram (digital subtraction angiography)

Lateral (A) and anteroposterior (B) views of the posterior circulation on cerebral angiography. The white arrowhead demarcates a distal peripheral artery aneurysm. (C, D) Magnified views show a single artery supplying bilateral thalami consistent with an artery of Percheron (black arrows) and associated aneurysm (black arrowhead).

content. J Claude Hemphill: revised manuscript for intellectual content.

STUDY FUNDING

No targeted funding reported.

DISCLOSURE

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

REFERENCES

1. Kawaguchi S, Sakaki T, Morimoto T, Kakizaki T, Kamada K. Characteristics of intracranial aneurysms associated with moyamoya disease: a review of 111 cases. *Acta Neurochir* 1996;138:1287–1294.
2. Zhang L, Xu K, Zhang Y, Wang X, Yu J. Treatment strategies for aneurysms associated with moyamoya disease. *Int J Med Sci* 2015;12:234–242.

Neurology®

Teaching *NeuroImages*: Artery of Percheron aneurysm masquerading as ICH spot sign

Armen J. Moughamian, Ramin A. Morshed, Rene A. Colorado, et al.

Neurology 2017;89:e64-e65

DOI 10.1212/WNL.0000000000004212

This information is current as of August 7, 2017

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/89/6/e64.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2017/08/07/WNL.0000000000004212.DC1
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/89/6/e64.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Cerebrovascular disease/Stroke http://n.neurology.org/cgi/collection/all_cerebrovascular_disease_stroke Intracerebral hemorrhage http://n.neurology.org/cgi/collection/intracerebral_hemorrhage
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 © 2017 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.