Teaching *NeuroImages*: A pediatric patient with headache and neck stiffness

Adam R. Moeck, BS
Paola Pergami, MD, PhD

Correspondence to
Dr. Pergami:
ppergami@hsc.wvu.edu

Figure Radiographic findings

Cervical spine MRI demonstrates a glomus type intramedullary arteriovenous malformation. Multiple flow voids at the C3-C4 level involve the right hemicord. Axial (A) and sagittal (C) T1-weighted images, postgadolinium; axial (B) and sagittal (D) T2-weighted images. Angiography (E) shows compact nidus with single arterial feeder from the right vertebral artery.

A 14-year-old right-handed boy presented with sudden onset of severe headache and neck stiffness. Physical examination showed arm asymmetry with smaller size and muscle bulk (present since childhood) and increased deep tendon reflexes on the right, but normal strength. Brain CT and lumbar puncture ruled out subarachnoid hemorrhage or infection. MRI and angiography (figure) identified an unruptured type III spinal arteriovenous malformation at the C3-C4 level, supplied by the right vertebral artery.¹ Subtle physical examination findings can indicate underlying pathology and should not be overlooked in the proper context. Vascular studies should be considered for severe headache with negative initial workup.²

AUTHOR CONTRIBUTIONS

Adam Moeck: drafting/revising the manuscript, accepts responsibility for conduct of research and final approval. Paola Pergami: drafting/revising

the manuscript, study concept or design, analysis or interpretation of data, accepts responsibility for conduct of research and final approval, study supervision.

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. Spetzler RF, Detwiler PW, Riina HA, Porter RW. Modified classification of spinal cord vascular lesions. *J Neurosurg* 2002;96:145–156.
2. Mortimer AM, Bradley MD, Stoodley NG, Renowden SA. Thunderclap headache: diagnostic considerations and neuroimaging features. *Clin Radiol* 2013;68:101–113.

Neurology®

Teaching *NeuroImages*: A pediatric patient with headache and neck stiffness

Adam R. Moeck and Paola Pergami

Neurology 2013;81:e101

DOI 10.1212/WNL.0b013e3182a55f5b

This information is current as of September 23, 2013

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/81/13/e101.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2013/09/21/81.13.e101.DC1
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/81/13/e101.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Pediatric http://n.neurology.org/cgi/collection/all_pediatric All Spinal Cord http://n.neurology.org/cgi/collection/all_spinal_cord Arteriovenous malformation http://n.neurology.org/cgi/collection/arteriovenous_malformation Pediatric headache http://n.neurology.org/cgi/collection/pediatric_headache
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 © 2013 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.