Teaching *NeuroImages*: Ocular bruit in carotid-cavernous sinus fistula

Jeong-Yoon Choi, MD
Seol-Hee Baek, MD
Jin-Man Jung, MD, PhD
Do-Young Kwon, MD,
PhD
Moon Ho Park, MD,
PhD

Correspondence to
Dr. Park:
parkmuno@yahoo.co.kr

Figure 1 Physical examinations

(A) Left eye with conjunctival injection and ptosis. (B) Left eye proptosis. (C) Fundus shows dilated veins with no hemorrhages or disc edema. (D) Ocular motility shows complete external ophthalmoplegia in left eye and partial limitation of abduction in right eye.

A 57-year-old man who had a traffic accident 1 month previously presented with left ocular pain, double vision, and left eye proptosis with ptosis and conjunctival hemorrhage. Fundus showed dilated veins with no hemorrhages or disc edema. Left ocular motility showed complete external ophthalmoplegia (figure 1). There was prominent ocular bruit in his left eye (audio file on the *Neurology*® Web site at Neurology.org). MRI and magnetic resonance angiography showed a dilated left superior

ophthalmic vein and an extravasation into cavernous sinus (figure 2). With chemosis, ophthalmoplegia, and retro-orbital pain, the auscultation of orbital bruit can make a correct and prompt diagnosis in the patient with carotid-cavernous sinus fistula.¹

AUTHOR CONTRIBUTIONS

Dr. Choi: participated in conceptualization of the manuscript, drafted the manuscript. Dr. Baek: participated in analysis of results and conceptualization of the manuscript. Dr. Jung: selected appropriate images and

Supplemental data
at Neurology.org

Download teaching slides:
Neurology.org

From the Department of Neurology, Korea University College of Medicine, Ansan, Korea.

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 Brain MRI and magnetic resonance angiography findings

Contrast-enhanced MRI (A) and magnetic resonance angiography (B) show a dilated left superior ophthalmic vein (black arrowhead) and a extravasation into cavernous sinus (white arrow).

revised the manuscript for intellectual content. Dr. Kwon: participated in analysis of results and revised the manuscript for intellectual content. Dr. Park: drafted the manuscript and figure legend and revised the 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.

REFERENCE

1. Ling JD, Chao D, Al Zubidi N, Lee AG. Big red flags in neuro-ophthalmology. *Can J Ophthalmol* 2013;48:3–7.

Neurology®

Teaching *NeuroImages*: Ocular bruit in carotid-cavernous sinus fistula

Jeong-Yoon Choi, Seol-Hee Baek, Jin-Man Jung, et al.

Neurology 2014;83:e87-e88

DOI 10.1212/WNL.0000000000000689

This information is current as of August 11, 2014

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/83/7/e87.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2014/08/10/WNL.0000000000000689.DC1 http://n.neurology.org/content/suppl/2014/08/10/WNL.0000000000000689.DC2
References	This article cites 1 articles, 0 of which you can access for free at: http://n.neurology.org/content/83/7/e87.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Imaging http://n.neurology.org/cgi/collection/all_imaging All Neuro-ophthalmology http://n.neurology.org/cgi/collection/all_neuroophthalmology Clinical neurology examination http://n.neurology.org/cgi/collection/clinical_neurology_examination Other cerebrovascular disease/ Stroke http://n.neurology.org/cgi/collection/other_cerebrovascular_disease__stroke
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 © 2014 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.