Teaching Video *NeuroImages*: Asymptomatic subclavian-carotid double steal phenomenon due to innominate artery stenosis

Roberto Muñoz, MD,
PhD
Laura Pulido, MD
Jaime Gállego, MD, PhD

Correspondence & reprint
requests to Dr. Muñoz:
robertoprovisional@hotmail.com

Figure 1 Proximal innominate arterial stenosis

CT angiography axial source image near the aortic arch shows a severe stenosis associated with a calcified atheromatous plaque (thick arrow) which gives rise to a significant reduction of flow in CA (thin arrow).

A 67-year-old asymptomatic man was referred after detection of absent right radial pulse and asymmetry in systolic and diastolic pressures between his arms. Duplex ultrasonography showed a “to and fro” waveform pattern in the right internal carotid artery and a reversal of flow in the right vertebral artery (videos 1 and 2 on the *Neurology*® Web site at www.neurology.org). Collateral supply through the anterior communicating artery was detected by transcranial duplex. CT angiography showed a severe proximal atherosclerotic innominate artery stenosis (figures 1 and 2).

The term “subclavian steal” refers to flow reversal in the vertebral artery ipsilateral to a hemodynamically significant stenosis of the subclavian artery.¹ Double steal phenomenon has been associated with innominate artery occlusion.² Collateral supply across the circle of Willis in our patient is

Figure 2 CT angiography

Three-dimensional-rendered CT angiography images of the aortic arch, supra-aortic trunks, and intracranial vessels show the severe innominate artery stenosis, appearing amputated on reformatted images (thick arrow). Right ICA (thin arrow) appears thinner in comparison to normal caliber left ICA.

sufficient to prevent ischemic symptoms and interventional treatment was deferred.

AUTHOR CONTRIBUTIONS

Dr. Muñoz: drafting/revising the manuscript, study concept or design, performed repeated clinical and neurosonological studies, analysis or interpretation of data, acquisition of data. Dra. Pulido: drafting/revising the manuscript, study concept or design, performed repeated clinical and neurosonological studies, analysis or interpretation of data. Dr. Gállego: drafting/revising the manuscript, performed repeated clinical and neurosonological studies, study supervision.

REFERENCES

1. Contorni L. The vertebro-vertebral collateral circulation in obliteration of the subclavian artery at its origin. *Minerva Chir* 1960;15:268.
2. Fillis K, Toufektzian L, Sigala F, et al. Right subclavian double steal syndrome: a case report. *J Med Case Reports* 2008;2:392–398.

Supplemental data at
www.neurology.org

From the Neurology Department, Complejo Hospitalario de Navarra, Pamplona, Navarra, Spain.
The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

Neurology®

Teaching Video *NeuroImages*: Asymptomatic subclavian-carotid double steal phenomenon due to innominate artery stenosis

Roberto Muñoz, Laura Pulido and Jaime Gállego

Neurology 2012;78:e125

DOI 10.1212/WNL.0b013e3182563b6c

This information is current as of May 14, 2012

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/78/20/e125.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2012/05/14/78.20.e125.DC1
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/78/20/e125.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 Ultrasound http://n.neurology.org/cgi/collection/ultrasound
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 Copyright © 2012 by AAN Enterprises, Inc.. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.