Teaching NeuroImage: Abducens Nerve Palsy With Ipsilateral Excessive Eye Tearing Attributed to an Internal Carotid Artery Sympathetic Plexus Schwannoma

Lina Palaiodimou, MD, Stefanos Lachanis, MD, Eleni Bakola, MD, Panagiotis Zis, MD, Evangelia Kararizou, MD, Marianna Papadopoulou, MD, and Georgios Tsivgoulis, MD

Neurology® 2021;97:e1461-e1463. doi:10.1212/WNL.0000000000012183

Correspondence
Dr. Tsivgoulis
tsvigoulisgiorg@yahoo.gr

Figure 1 Neuroimaging Findings of a Patient With an Internal Carotid Sympathetic Plexus Schwannoma

Axial brain MRI with T2-weighted sequence shows a hyperintense lesion along the anterior wall of the left internal carotid artery at the transition of the petrous to cavernous segment (A, arrow). Coronal (B) and sagittal (C) brain MRI with T2-weighted 3D turbo spin-echo (SPACE) sequence with multiplanar reconstruction demonstrate the elongated course of the lesion (arrows) within the left carotid canal, juxtapositionally to the internal carotid artery from the lower part of the cavernous segment until the midpart of the petrous segment. Axial (D), coronal (E), and sagittal (F) brain MRI with T1-weighted 3D SPACE black blood sequence show the homogeneously enhancing lesion (arrows) in the left carotid canal, surrounding the petrous and cavernous segments of the internal carotid artery.

A 65-year-old man developed subacute horizontal diplopia due to left abducens nerve (AN) palsy and excessive left eye tearing. Brain MRI revealed a hyperintense T2 lesion with an elongated course within the left carotid canal, presenting homogenous contrast enhancement (figure 1). The imaging findings were characteristic for an internal carotid artery sympathetic...
plexus (ICSP) schwannoma compressing the left AN. Subsequent irritation of the deep petrosal nerve originating directly from ICSP and continuing as the Vidian nerve may have led to the lacrimal gland edema and excessive left eye tearing (Figure 2). Thorough case presentation and a figure demonstrating the relevant anatomy are available from Dryad at doi.org/10.5061/dryad.pzgmsbck6.

ICSP schwannoma represents an uncommon cause of AN palsy,\textsuperscript{1,2} that may also manifest with excessive ipsilateral eye tearing due to Vidian nerve involvement.

**Study Funding**
None to report.

**Disclosure**
The authors report no disclosures. Go to Neurology.org/N for full disclosures.

### Appendix Authors

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lina Palaiodimou, MD</td>
<td>National and Kapodistrian University of Athens, Greece</td>
<td>Data collection, analysis and interpretation, drafting and revising the manuscript</td>
</tr>
<tr>
<td>Stefanos Lachanis, MD</td>
<td>Iatropolis Magnetic Resonance Diagnostic Centre, Athens, Greece</td>
<td>Data collection, analysis and interpretation, critical comments during manuscript revision</td>
</tr>
<tr>
<td>Eleni Bakola, MD</td>
<td>National and Kapodistrian University of Athens, Greece</td>
<td>Critical comments during manuscript revision</td>
</tr>
<tr>
<td>Panagiotis Zis, MD, PhD</td>
<td>University of Cyprus, Nicosia</td>
<td>Critical comments during manuscript revision</td>
</tr>
<tr>
<td>Evangelia Kararizou, MD, PhD</td>
<td>National and Kapodistrian University of Athens, Greece</td>
<td>Critical comments during manuscript revision</td>
</tr>
</tbody>
</table>
## Appendix (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marianna Papadopoulou, MD, PhD</td>
<td>National and Kapodistrian University of Athens; University of West Attica, Greece</td>
<td>Critical comments during manuscript revision</td>
</tr>
<tr>
<td>Georgios Tsivgoulis, MD, PhD</td>
<td>National and Kapodistrian University of Athens, Greece; The University of Tennessee Health Science Center, Memphis</td>
<td>Data collection, analysis and interpretation, drafting and revising the manuscript</td>
</tr>
</tbody>
</table>

## References

Teaching NeuroImage: Abducens Nerve Palsy With Ipsilateral Excessive Eye Tearing Attributed to an Internal Carotid Artery Sympathetic Plexus Schwannoma
Lina Palaiodimou, Stefanos Lachanis, Eleni Bakola, et al.
Neurology 2021;97:e1461-e1463 Published Online before print May 12, 2021
DOI 10.1212/WNL.0000000000012183

This information is current as of May 12, 2021

Updated Information & Services
including high resolution figures, can be found at:
http://n.neurology.org/content/97/14/e1461.full

References
This article cites 2 articles, 1 of which you can access for free at:
http://n.neurology.org/content/97/14/e1461.full#ref-list-1

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
Diplopia (double vision)
http://n.neurology.org/cgi/collection/diplopia_double_vision
MRI
http://n.neurology.org/cgi/collection/mri
Nerve tumor
http://n.neurology.org/cgi/collection/nerve_tumor

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 © 2021 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.