Teaching NeuroImages: Brain MRI and DaT-SPECT imaging in adult GM1 gangliosidosis

Antonio Marangi, MD, Matteo Tagliapietra, MD, Virginia Vicenzi, MD, Isabella Pasquin, MD, and Alessandro Salviati, MD, PhD

Neurology® 2018;91:e187-e188. doi:10.1212/WNL.0000000000005775

Correspondence
Dr. Marangi
marangi2010@libero.it

A 58-year-old woman with genetically confirmed adult GM1 gangliosidosis (aGM1-g) presented with generalized dystonia that was later followed by akinesic-rigid parkinsonism. Brain MRI revealed hyperintensities in the bilateral putamen typically observed in this disease1 (figure, A and B), while DaT-SPECT (123I-Ioflupane) showed decreased radiotracer uptake in both basal ganglia, more evident on the left side (figure, C). Selective involvement of the basal ganglia in aGM1-g is thought to be related to a higher turnover of GM1 ganglioside in this region.2 Our report suggests a presynaptic pattern of dopaminergic dysfunction in this disease.

Author contributions
Dr. Antonio Marangi: case report organization, analysis of data, draft of manuscript. Dr. Matteo Tagliapietra: analysis of data, manuscript review and critique. Dr. Virginia Vicenzi: manuscript review and critique. Dr. Isabella Pasquin: manuscript review and critique. Dr. Alessandro Salviati: manuscript review and critique.

From the Department of Neurosciences, Biomedicine and Movement Sciences (A.M., M.T., V.V., A.S.), and Interdisciplinary Group for Hereditary Metabolic Diseases (GIMME) (A.S.), University of Verona; and Department of Nuclear Medicine (I.P.), Azienda Ospedaliera Universitaria Integrata, Verona, Italy.

Go to Neurology.org/N for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.
Vicenzi: manuscript review and critique. Dr. Isabella Pasquin: analysis of instrumental images, manuscript review and critique. Dr. Alessandro Salviati: case report conception and organization, analysis of data, manuscript review and critique.

**Study funding**
No targeted funding reported.

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

**References**
Teaching NeuroImages: Brain MRI and DaT-SPECT imaging in adult GM1 gangliosidosis
Antonio Marangi, Matteo Tagliapietra, Virginia Vicenzi, et al.
*Neurology* 2018;91:e187-e188
DOI 10.1212/WNL.0000000000005775

This information is current as of July 9, 2018

<table>
<thead>
<tr>
<th>Updated Information &amp; Services</th>
<th>including high resolution figures, can be found at: <a href="http://n.neurology.org/content/91/2/e187.full">http://n.neurology.org/content/91/2/e187.full</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>This article cites 2 articles, 1 of which you can access for free at: <a href="http://n.neurology.org/content/91/2/e187.full#ref-list-1">http://n.neurology.org/content/91/2/e187.full#ref-list-1</a></td>
</tr>
<tr>
<td>Subspecialty Collections</td>
<td>This article, along with others on similar topics, appears in the following collection(s):</td>
</tr>
<tr>
<td></td>
<td><em>Basal ganglia</em> <a href="http://n.neurology.org/cgi/collection/basal_ganglia">http://n.neurology.org/cgi/collection/basal_ganglia</a></td>
</tr>
<tr>
<td></td>
<td><em>Dystonia</em> <a href="http://n.neurology.org/cgi/collection/dystonia">http://n.neurology.org/cgi/collection/dystonia</a></td>
</tr>
<tr>
<td></td>
<td><em>Parkinson disease/Parkinsonism</em> <a href="http://n.neurology.org/cgi/collection/parkinsons_disease_parkinsonism">http://n.neurology.org/cgi/collection/parkinsons_disease_parkinsonism</a></td>
</tr>
<tr>
<td></td>
<td><em>SPECT</em> <a href="http://n.neurology.org/cgi/collection/spect">http://n.neurology.org/cgi/collection/spect</a></td>
</tr>
<tr>
<td>Permissions &amp; Licensing</td>
<td>Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://www.neurology.org/about/about_the_journal#permissions">http://www.neurology.org/about/about_the_journal#permissions</a></td>
</tr>
<tr>
<td>Reprints</td>
<td>Information about ordering reprints can be found online: <a href="http://n.neurology.org/subscribers/advertise">http://n.neurology.org/subscribers/advertise</a></td>
</tr>
</tbody>
</table>