Teaching *NeuroImages*: Drug-induced parkinsonism with asymmetrical putaminal DaT binding

Claire Bridel, MD, PhD
Valentina Garibotto, MD

Correspondence to
Dr. Garibotto:
valentina.garibotto@hcuge.ch

Figure Brain SPECT and MRI

¹²³I-iodoflupane SPECT imaging, a measure of dopamine transporters density, demonstrates right posterior putamen hypoactivity (A, white arrow), a distribution typically observed in degenerative parkinsonism. This hypoactivity matches a T1 hypointensity on brain MRI (B, red arrow), consistent with ischemic sequela. (C) SPECT and MRI superposition.

A 64-year-old patient developed shuffling gait and postural instability over 8 months, in parallel to risperidone intake. Examination showed symmetric parkinsonian syndrome and mild left hemiparesis with spasticity, related to right middle cerebral artery stroke 10 years before. Within 1 month of risperidone withdrawal, parkinsonism disappeared, confirming drug-induced etiology. While degenerative parkinsonism is associated with reduction in striatal dopamine transporters binding in absence of structural lesions to basal ganglia, binding in drug-induced parkinsonism is normal.¹ In our case, SPECT anomaly was incidental, related to the ischemic sequela (figure).² This case highlights the importance of brain structural integrity for SPECT interpretation.

AUTHOR CONTRIBUTIONS

Claire Bridel: drafting/revising the manuscript, analysis or interpretation of data, accepts responsibility for conduct of research and final approval. Valentina Garibotto: drafting/revising the manuscript, analysis or interpretation of data, accepts responsibility for conduct of research and final approval, acquisition of data.

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. Marshall V, Grosset D. Role of dopamine transporter imaging in routine clinical practice. *Mov Disord* 2003;18:1415–1423.
2. Rusmann H, Vingerroets F, Ghika J, Maeder P, Bogousslavsky J. Acute infarction limited to the lenticular nucleus: clinical, etiologic, and topographic features. *Arch Neurol* 2003;60:351–355.

Neurology[®]

Teaching *NeuroImages*: Drug-induced parkinsonism with asymmetrical putaminal DaT binding

Claire Bridel and Valentina Garibotto

Neurology 2015;84:e159

DOI 10.1212/WNL.0000000000001590

This information is current as of May 18, 2015

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/84/20/e159.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2015/05/16/WNL.0000000000001590.DC1
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/84/20/e159.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Basal ganglia http://n.neurology.org/cgi/collection/basal_ganglia MRI http://n.neurology.org/cgi/collection/mri Parkinson's disease/Parkinsonism http://n.neurology.org/cgi/collection/parkinsons_disease_parkinsonism SPECT http://n.neurology.org/cgi/collection/spect
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 © 2015 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.