Parkinsonism Presented with Watershed Pattern Lesions

Yi Dong MD, PhD1; Xin Cheng MD, PhD1; Qiang Dong MD, PhD1

Affiliations: 1. Department of Neurology, Huashan Hospital, Fudan University

Search Terms: Parkinsonism, MR, Other cerebrovascular disease/Stroke, All Demyelinating disease (CNS)

Neurology® Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.
Title Character count: 40

Number of Figures: 2

Word count of Paper: 96

Corresponding Author:

Dong Qiang

Email: dong_qiang@fudan.edu.cn

Study funding: No targeted funding reported.

Disclosures: The authors report no disclosure relevant to the manuscript.
A 47-year-old man presented to clinic with progressively right-hand bradykinesia and shuffling gait for 8 months. He was diagnosed with Parkinsonism. Brain MR demonstrated DWI-hyperintense signal involving bilateral corona radiate (Figure 1) and T2-weighted MR showed white matter changes (Figure 2). Colony-stimulating factor 1 receptor (CSF1R) gene sequencing revealed the pathogenic variants c.2381T>C(p.Ile794Thr), confirming the diagnosis of hereditary diffuse leukoencephalopathy with spheroids (HDLS)\(^1\). He was treated with levodopa and selegiline but with minimal response\(^2\).

**Acknowledge:** We appreciate Dr. Feng-Tao Liu providing help in the patient’s care.

**Teaching Slides:** [http://links.lww.com/WNL/B370](http://links.lww.com/WNL/B370)

**Reference**


Figure Legends

Figure 1. Brain MR demonstrated watershed DWI-hyperintense signal.

Brain MR demonstrated DWI-hyperintense signal (white arrowhead) involving bilateral corona radiate, which fit watershed infarction pattern.
Figure 2: Extensive white matter hyperintensity lesion on contrast Brain MR

(A & B) several lacunas with extensive white matter hyperintensity lesions involving bilateral lateral periventricular regions without enhancement; (C & D) DWI positive lesions without hypo-intensity appearance on ADC; (E) hypo-intensity lesions on rostrum of corpus callosum (white arrow) and predominant splenial atrophy (black arrowheads)
### Appendix: Authors

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yi Dong, MD, PhD</td>
<td>Huashan Hospital, Fudan University</td>
<td>Collection and interpretation of the data, manuscript drafting</td>
</tr>
<tr>
<td>Xin Cheng, MD, PhD</td>
<td>Huashan Hospital, Fudan University</td>
<td>manuscript revision</td>
</tr>
<tr>
<td>Qiang Dong, MD, PhD</td>
<td>Huashan Hospital, Fudan University</td>
<td>supervision, manuscript revision</td>
</tr>
</tbody>
</table>
Teaching NeuroImages: Parkinsonism Presenting With Watershed Pattern Lesions
Yi Dong, Xin Cheng and Qiang Dong
Neurology published online April 26, 2021
DOI 10.1212/WNL.000000000012056

This information is current as of April 26, 2021

<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/early/2021/04/26/WNL.000000000012056.citation.full">http://n.neurology.org/content/early/2021/04/26/WNL.000000000012056.citation.full</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subspecialty Collections</td>
<td>This article, along with others on similar topics, appears in the following collection(s): All Demyelinating disease (CNS) <a href="http://n.neurology.org/cgi/collection/all_demyelinating_disease_cns">http://n.neurology.org/cgi/collection/all_demyelinating_disease_cns</a> MRI <a href="http://n.neurology.org/cgi/collection/mri">http://n.neurology.org/cgi/collection/mri</a> Other cerebrovascular disease Stroke <a href="http://n.neurology.org/cgi/collection/other_cerebrovascular_disease__stroke">http://n.neurology.org/cgi/collection/other_cerebrovascular_disease__stroke</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>

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.