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Neurology Publish Ahead of Print
DOI: 10.1212/WNL.0000000000010849

Teaching Video Neuroimage: Posterior cortical atrophy presenting with Balint's syndrome

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Search terms: Clinical Neurologic examination, All Cognitive Disorders Dementia, Ocular Motility, All Neuropsychology/Behavior, PET.

Title character count: **60**

Number of tables: **0**

Number of figures: **1**

Number of Additional Files: **1**

Word Count abstract: **74**

Word Count Paper: **100**

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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.

Disclosure: The authors report no disclosures relevant to the manuscript.

Statistical Analysis None was conducted.

Study funding: No targeted funding reported.

ABSTRACT

We present the case of a 68-year-old woman who developed progressive visuospatial deficits in a period of 18-months leading to the loss of her independence for activities of daily living. After examination, she showed signs of Balint's Syndrome with optic ataxia, oculomotor apraxia, and simultanagnosia without visual acuity impairment. After brain imaging showing severe bilateral parieto-occipital association cortex atrophy, a diagnosis of posterior cortical atrophy was made according to the 2017 International Consortium's criteria.

MAIN TEXT

A previously healthy 68-year-old woman developed visuospatial deficits, inability to read, and motor dyspraxia for eighteen months, leading to the loss of her independence despite spared memory and speech. Several ophthalmology consultations showed no findings. Neurological examination evidenced oculomotor apraxia, optic ataxia, and simultanagnosia. (Video1,<http://links.lww.com/WNL/B225>). Neuroimaging showed cortical atrophy with impaired metabolism on both occipito-parietal association cortexes but preserved primary visual cortex. (Figure e-1).

Posterior Cortical atrophy is a rare variant of Alzheimer's disease but can also occur in other neurodegenerative disorders such as corticobasal degeneration. Other causes for Balint's syndrome such as PRES, or watershed infarcts should be ruled-out.²

Appendix 1: Authors

Name	Location	Contribution
Roberto Rodríguez-Rivas MD	Instituto Nacional de Neurología y Neurocirugía CMDX, México	Design and conceptualized study; drafted the manuscript for intellectual content; edited videos, images and redacted video-vignettes.
Mariana Marcin-Sierra MD	Instituto Nacional de Neurología y Neurocirugía CMDX, México	Data and video collection and analysis.
Carlos Cardeña-Arredondo MD	Instituto Nacional de Neurología y Neurocirugía CMDX, México	Coordinated imaging and molecular analysis.

Acknowledgements: The authors thank Dr. Nora Estela Kerik Rotenberg (Instituto Nacional de Neurología y Neurocirugía, Chief of Department of Molecular Imaging) and Dr. Leo Bayliss-Amaya (Instituto Nacional de Neurología y Neurocirugía, neurology department) for their administrative direction, analysis assistance and invaluable teachings).

Video - <http://links.lww.com/WNL/B225>

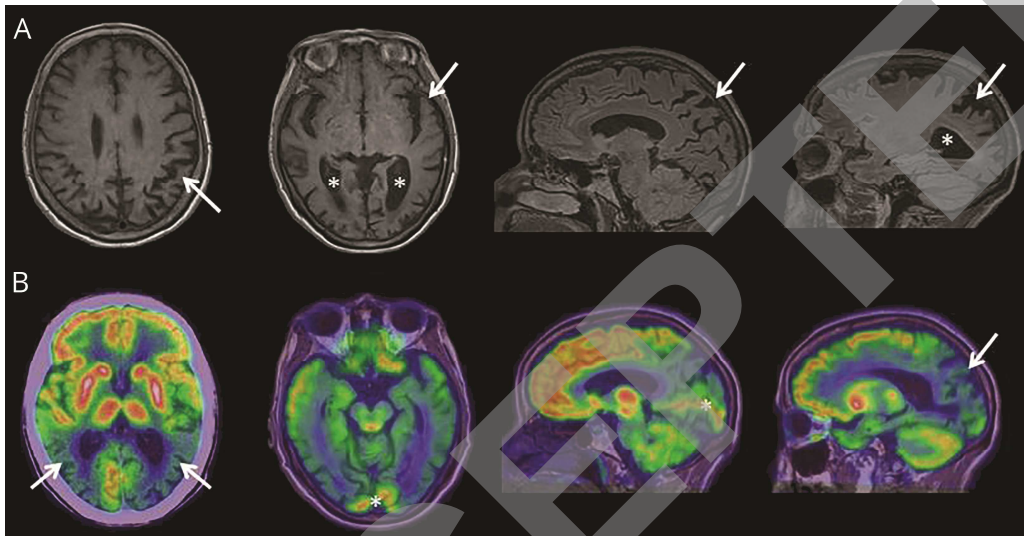
Teaching Slides - <http://links.lww.com/WNL/B226>

REFERENCES

1. Schott, J. M. & Crutch, S. J. (2019) Posterior Cortical Atrophy. CONTINUUM: Lifelong Learning in Neurology. [Online] 25 (1), 52–75.
2. Galton CJ, Patterson K, et al. Atypical and typical presentations of Alzheimer’s disease: a clinical, neuropsychological, neuroimaging and pathological study of 13 cases. Brain, 2000. 123, 484-498.

Figure 1. Structural MRI and PET/MRI scan

A. Structural MRI T1-3D sequence, showing bilateral parieto-occipital and temporal cortical atrophy (arrows) with enlargement of lateral ventricle's posterior horns (*). B. 18-FDG PET/MRI scan showed profoundly impaired posterior cortical metabolism, especially in the parietal and parieto-occipital association cortices (arrows), with relatively preserved metabolism in the primary visual cortex (*).



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Neurology published online September 14, 2020

DOI 10.1212/WNL.0000000000010849

This information is current as of September 14, 2020

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