







Complex movement disorders in early onset hypoparathyroidism

Distúrbios do movimento complexos em hipoparatireoidismo de início precoce

Filipe Sarmiento^{1,2} João Vitor Gerdulli Tamanini² Sofia Mônaco Gama²
Leonardo Furtado Freitas^{1,3} Orlando Graziani Povoas Barsottini² José Luiz Pedroso²

¹University of Florida, Norman Fixel Institute for Neurological Diseases, Gainesville FL, United States.

²Universidade Federal de São Paulo, Departamento de Neurologia e Neurocirurgia, São Paulo SP, Brazil.

³University of Iowa, Department of Radiology, Division on Neuroradiology, Iowa City IA, United States.

Address for correspondence Filipe Sarmiento
(email: filipe.sarmiento@neurology.ufl.edu).

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A 23-year-old female patient with long-standing untreated idiopathic hypoparathyroidism presented with complex involuntary movements. Physical examination revealed generalized dystonia, painful spasms, and stereotypies (►**Video 1**). Brain magnetic resonance imaging (►**Figure 1**) and brain CT (►**Figure 2**) revealed extensive bilateral calcification.

Video 1.

Complex movement disorders in early onset hypoparathyroidism. Online content including video sequences viewable at: <https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0044-1788778>.

Hypoparathyroidism can present with a variety of neurological symptoms (►**Figure 3**), including, though less commonly, movement disorders such as chorea, parkinsonism, dystonia, choreoathetosis, and paroxysmal dyskinesia.^{1,2} Notably, stereotypic-like movements were only previously described by Galvez-Jimenez et al.¹ Central nervous system calcifications are present in up to 74% of patients with hypoparathyroidism.³ Despite its prevalence, there is no clear relationship between the location and extent of the calcifications and the clinical phenotype.³

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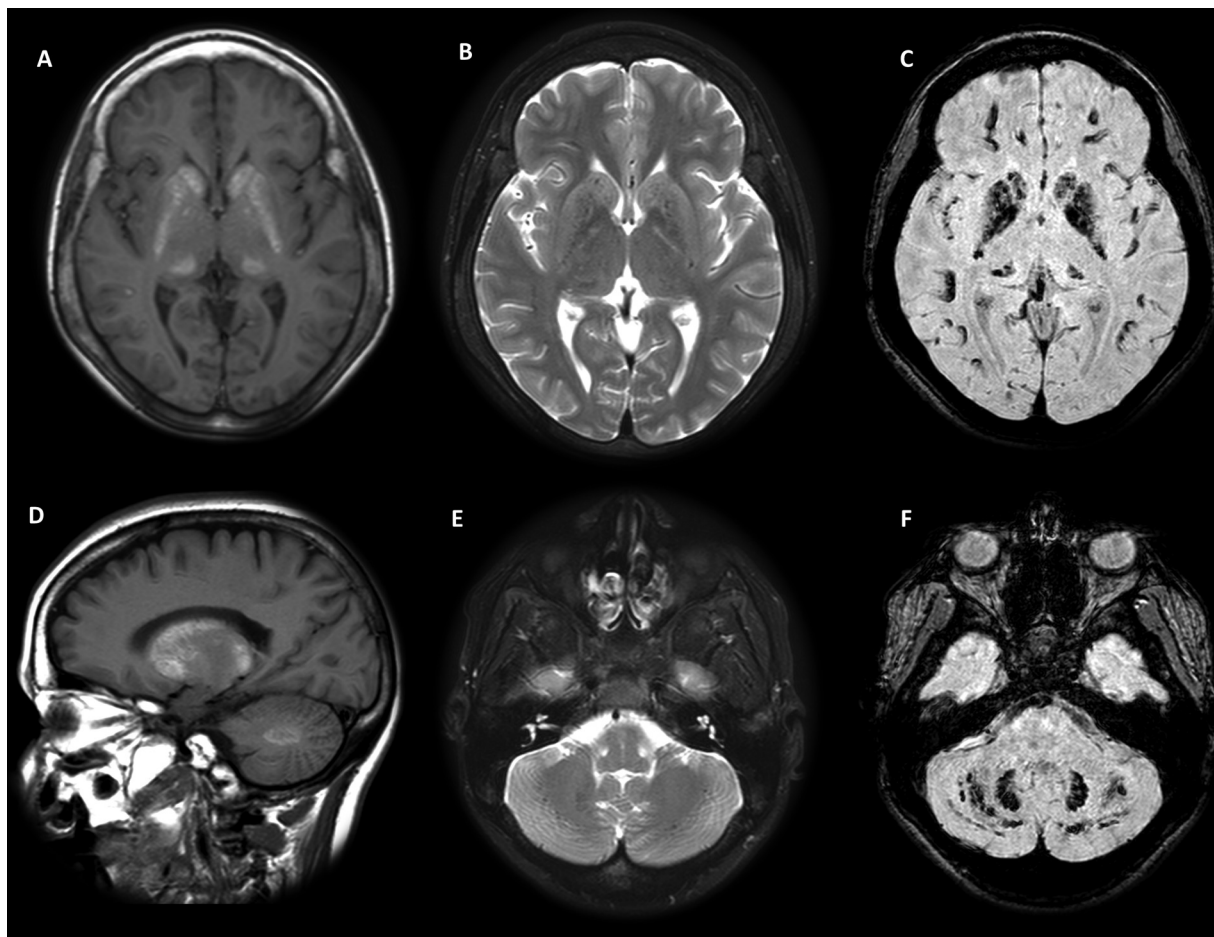


Figure 1 Brain MRI: A/D - T1 hyperintense signal in the basal ganglia and dentate nuclei; B/E - T2 low to isointense signal in the basal ganglia and dentate nuclei; C/F - SWI hyposignal in the basal ganglia, dentate nuclei and subcortical white matter.

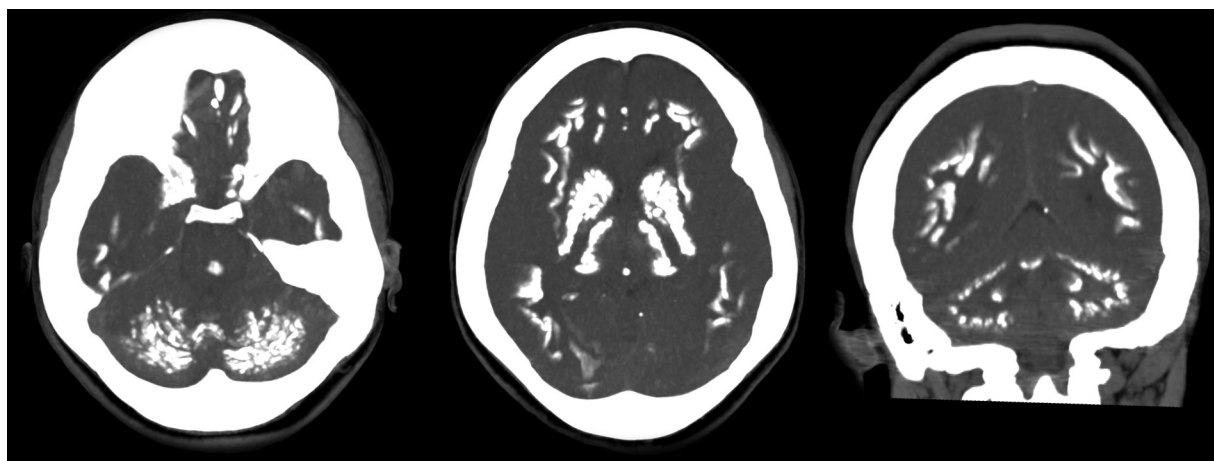


Figure 2 Brain CT scan disclosing bilateral and symmetrical calcification in the basal ganglia, thalamus, dentate nuclei, and subcortical white matter.

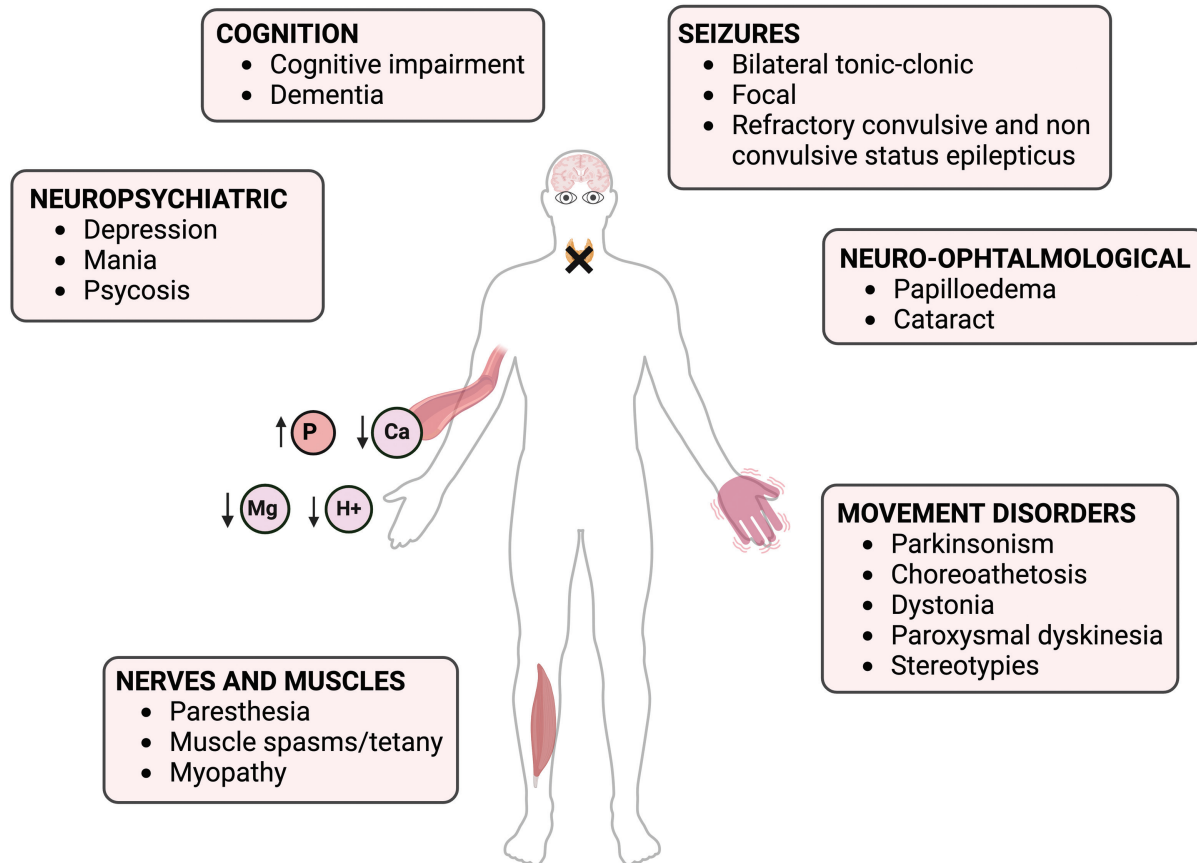


Figure 3 The figure demonstrates the broad spectrum of neurological manifestations associated with hypoparathyroidism. Additionally, it depicts ion changes in the blood.

Authors' Contributions

FPS: conceptualization, data curation, project administration, supervision, writing – original draft, writing – review & editing; JVGT, SMG: writing – original draft, writing – review & editing; LFF: data curation, writing – review & editing; OGPB: supervision; JLP: conceptualization, data curation, project administration, supervision, writing – review & editing.

Conflict of Interest

The authors have no conflict of interest to declare.

References

- 1 Gálvez-Jiménez N, Hanson MR, Cabral J. Dopa-resistant parkinsonism, oculomotor disturbances, chorea, mirror movements, dyspraxia, and dementia: the expanding clinical spectrum of hypoparathyroidism. A case report. *Mov Disord* 2000;15(06):1273–1276. Doi: 10.1002/1531-8257(200011)15:6<1273::aid-mds1038>3.0.co;2-o
- 2 Manyam BV, Walters AS, Narla KR. Bilateral striopallidodentate calcinosis: clinical characteristics of patients seen in a registry. *Mov Disord* 2001;16(02):258–264. Doi: 10.1002/mds.1049
- 3 Mannstadt M, Bilezikian JP, Thakker RV, et al. Hypoparathyroidism. *Nat Rev Dis Primers* 2017;3:17080. Doi: 10.1038/nrdp.2017.55