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

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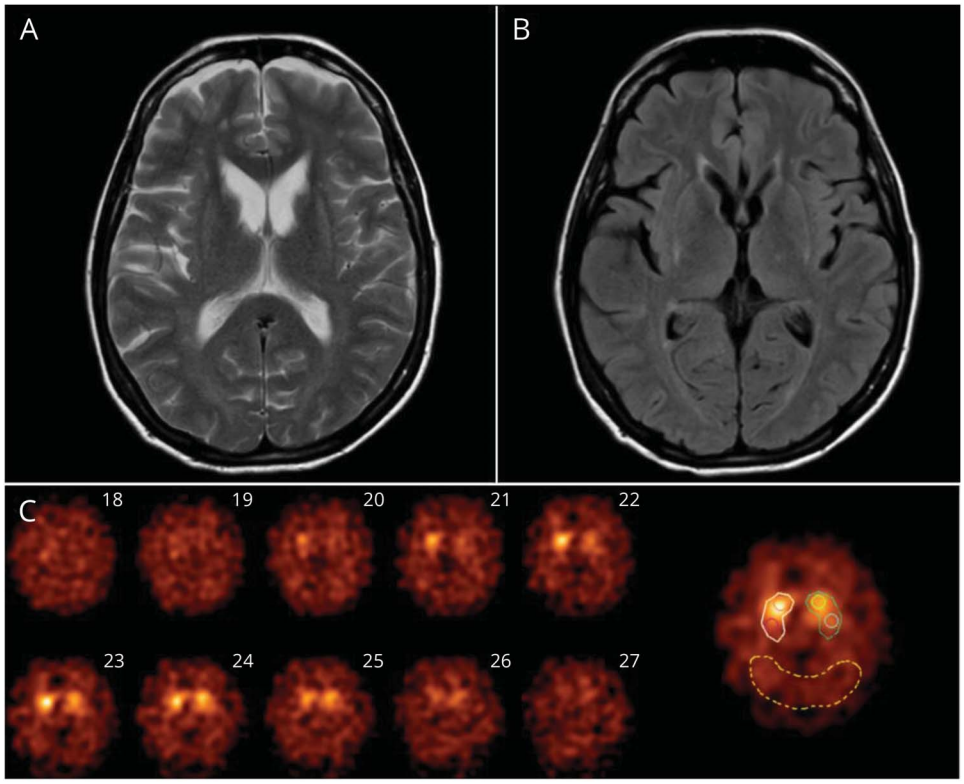
**Figure** MRI and DaT-SCAN SPECT findings in the adult GM1 gangliosidosis patient




(A, B) Axial T2-weighted imaging and fluid-attenuated inversion recovery images show increased signal in the putamina. (C) DaT-SPECT demonstrates decreased radiotracer uptake in the bilateral basal ganglia suggestive of nigrostriatal dopaminergic dysfunction. More diffuse involvement of putamen and caudate nucleus can be noted on the left side.

A 58-year-old woman with genetically confirmed adult GM1 gangliosidosis (aGM1-g) presented with generalized dystonia that was later followed by akinetic-rigid parkinsonism. Brain MRI revealed hyperintensities in the bilateral putamen typically observed in this disease[1] (figure, A and B), while DaT-SPECT ($^{123}$I-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.

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## 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

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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.

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## Disclosure

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

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