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Hemiparkinsonism Secondary to Giant Aneurysm

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Nuno Canas: Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data

José Vale: Drafting/revision of the manuscript for content, including medical writing for content; Analysis or interpretation of data

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An 81-year-old woman presented with progressive right levodopa-nonresponsive hemiparkinsonism for six months. Brain CTscan and MRI (Figure 1) showed a giant supraclinoid unruptured aneurysm of the left internal carotid artery, leading to severe left basal ganglia displacement and left cerebral peduncle compression.

She underwent loflupane SPECT (Figure 2) that showed decreased tracer binding exclusively in the left putamina and left caudate nuclei. The preserved pre-synaptic dopaminergic function of right basal nuclei ruled out an unmasked latent Parkinson's disease.

In this case, a giant aneurism induced pre-synaptic dopaminergic dysfunction. Absent levodopa benefit may support that left post synaptic pathway was affected as well.

Figure 1 – CT and MRI demonstrating a giant unruptured aneurysm of the left supraclinoid internal carotid artery

Axial CTA (A, B and C); Coronal MIP thin (D); CTA three-dimensional posteroanterior reconstruction (E); T2-weighted axial MRI (F, G, H and I) and three-dimensional volume rendering (J). The images demonstrate a partially thrombosed giant aneurism that exerts lateral displacement of the left basal ganglia and left cerebral peduncle.

Figure 2 - Ioflupane (^{123}I) SPECT

Axial Ioflupane (^{123}I) SPECT images (A and B) demonstrate asymmetric activity with reduced Ioflupane uptake in left putamina and left caudate nuclei. Activity is preserved in the right hemisphere resulting in a comma shape.

Appendix 1. Authors

Name	Location			Contribution
Ana Gonçalves	Hospital Loures	Beatriz	Ângelo,	Study concept and design, acquisition of data, drafting the manuscript
João Oliveira	Hospital Loures	Beatriz	Ângelo,	Study concept and design, acquisition of data, drafting the manuscript
Rita Simões	Hospital Loures	Beatriz	Ângelo,	Acquisition of data, analysis and interpretation of data, study supervision
Nuno Canas	Hospital Loures	Beatriz	Ângelo,	Study concept and design, critical revision of manuscript for intellectual content.
José Vale	Hospital Loures	Beatriz	Ângelo,	Study concept and design, critical revision of manuscript for intellectual content.

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