

PSP-PFG cohort with unusual clinical features related to dopaminergic therapy

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Background: The terms primary progressive freezing gait was previously used to define patients with isolated gait disorders causing gait freezing during the first 3 years. The most recently published MDS Criteria defines PSP-PGF as characterized by progressive gait disturbance with start hesitation and freezing of gait within 3 years after PSP related symptoms[1].

Objective: The aim of this study is to describe our PSP-PFG cohort, considering motor and non-motor presentation highlighting the presence of unusual response to dopaminergic treatment.

Materials and methods: In our study we included 9 PSP-PFG patients of the Movement Disorders Clinic at the Neurology Unit of Pisa University. All participants underwent systematic neurological examination at the first visit and in at least five years follow up. Neuropsychological evaluation was also performed. All patients performed 123I-FP-CIT SPECT and FDG- PET imaging and MRI imaging.

Results: Dopamine transporter imaging was abnormal in all patients, MRI excluded significant vascular lesions, FDG PET showed frontal or fronto-striatal hypometabolism. Neuropsychological evaluation showed executive and visuo spatial problems, without clear dementia. All patients started levodopa therapy soon after the diagnosis with a mean daily levodopa equivalent daily dose at 2 years follow up between 750-1000 mg. Two patients developed motor fluctuations after about 3 years from the introduction of levodopa with the need to split the daily therapeutic dose administration; three patients developed involuntary movements. Three patients showed dopaminoagonist-induced visual hallucinations, one patient developed impulse-control disorder.

Conclusion: In our cohort of PSP-PFG patients we found unusual clinical features related to dopaminergic therapy; further studies are needed to confirm these findings.

Bibliography:

[1] Höglinger GU, Respondek G, Stamelou M, et al.; Movement Disorder Society-endorsed PSP Study Group. Clinical diagnosis of progressive supranuclear palsy: The movement disorder society criteria. *Mov Disord.* 2017;32(6):853–864.