

PROGRESSIVE SUPRANUCLEAR PALSY-LIKE PHENOTYPE SECONDARY TO BRAIN VASCULAR LESIONS



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INTRODUCTION

Progressive supranuclear palsy (PSP) is a degenerative parkinsonism characterized by postural instability with backward falls and vertical supranuclear gaze abnormalities. MR Parkinsonism index (MRPI), calculate by multiplying the pons area-midbrain area ratio by the middle cerebellar peduncle (MCP) width - superior cerebellar peduncle (SCP) width ratio, is able to differentiate PSP from Parkinson's disease (PD), other parkinsonisms and control subjects, without overlap of individual values. PSP patients has the highest MRPI values and this index distinguished PSP from the other groups with a sensitivity, specificity, and positive predictive value of 100% when a cutoff level of 13,55 is used.¹ However, PSP-like phenotype can also results from a variety of vascular disorders characterized by the presence of white matter lesions and lacunes in the brain detected by MR images.² A recent study showed that MRPI was significantly larger in PSP patients compared to patients with vascular parkinsonism. MRPI value ≥ 13 distinguished the two group with a sensitivity and a specificity of 100%.³

CASE REPORT

A 75-years-old woman without familiarity for neurological disease presented with a 5-year history of slowing of movements and progressive difficulty in walking and frequent falls with an onset in the first two years of illness. The neurological examination showed freezing of the gait, postural instability with backward falls, slowness of vertical saccades, hypophonia, symmetric bradykinesia and axial rigidity. Mini-mental State Examination score was 21. Levodopa acute test demonstrated unresponsiveness. MR images of the brain underlined ischemic lesions of basal ganglia and midbrain (Figure 1), with a bilateral high mean diffusivity in putamina and caudate nuclei. MRPI value was 10,91 (Figure 2). Single-photon emission computed tomography with I¹²³-Iofluopane (DAT-SCAN) showed bilateral reduced uptake in basal ganglia.

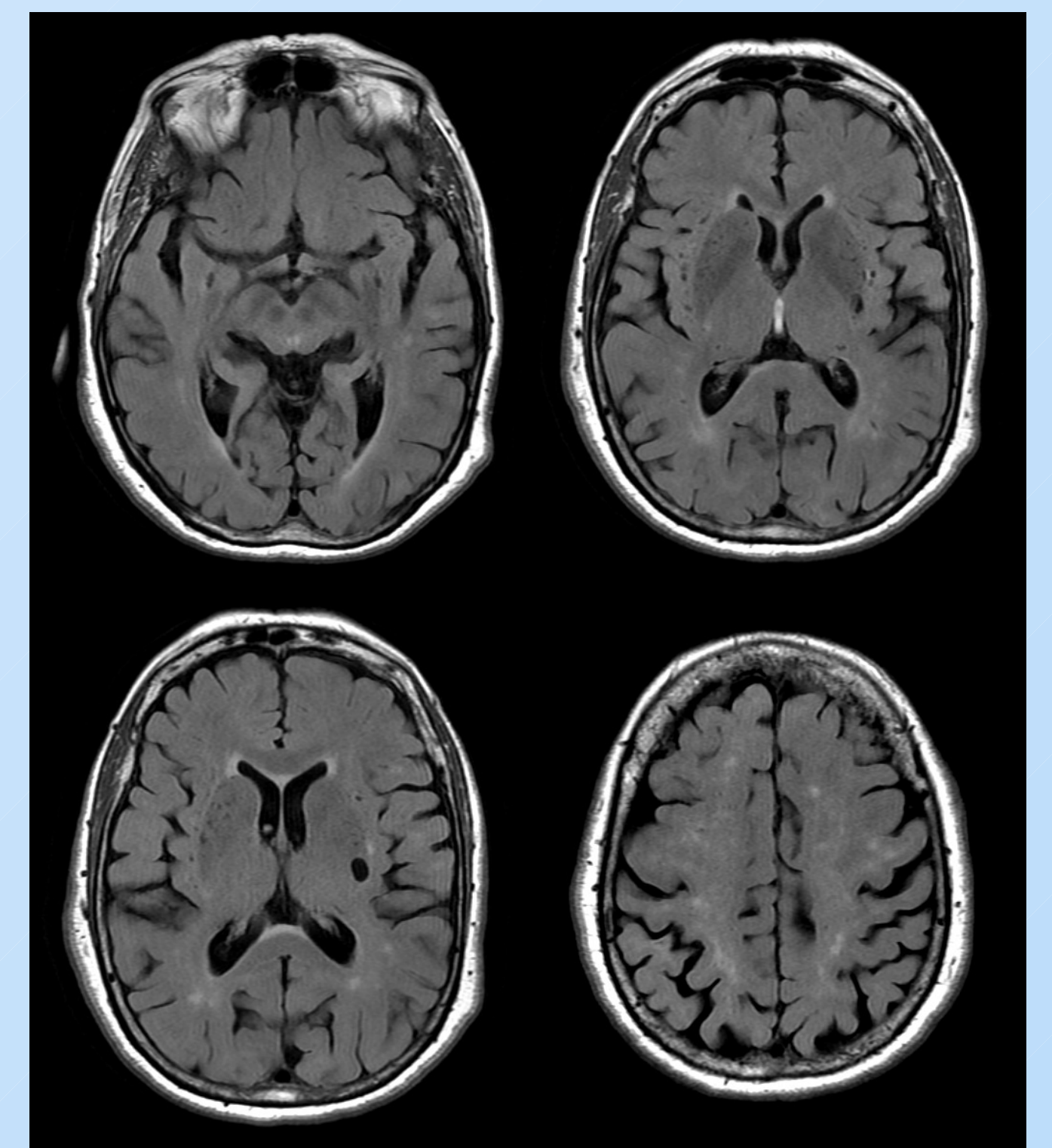


Fig 1: Axial T2 FLAIR weighted images demonstrate ischemic lesions in the brain



Fig 2: morphometric MRI analysis of brainstem structures showed the following measures: pons area (P), 540 mm²; midbrain area (M), 104 mm²; middle cerebellar peduncle (MCP) width, 7,75 mm; superior cerebellar peduncle (SCP) width, 3,69 mm. The MRPI value was 10,91.

CONCLUSIONS

The clinical features closely resembled idiopathic progressive supranuclear palsy (PSP). However, MRI images suggested a diagnosis of vascular parkinsonism and MRPI was incompatible with a classical form of PSP. In conclusion we described a rare progressive supranuclear palsy-like phenotype secondary to vascular lesions.

REFERENCES

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