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# Atypical Diabetic Striatopathy with Hypokinetic Parkinsonism and Levodopa Responsiveness

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## Introduction

•Diabetic striatopathy (DS) is a rare neurologic complication of nonketotic hyperglycemia, typically presenting as hyperkinetic chorea or ballism. It is classically characterized by T1-weighted striatal hyperintensity on MRI.
• Hypokinetic presentations and the coexistence of DS with idiopathic Parkinson′ s disease (iPD) are extremely uncommon. To report a rare case of DS presenting with a parkinsonian phenotype and significant levodopa responsiveness

## Case presentation (59/F)

| | |
|---|---|
| **Chief complaints** | **Progressive gait disturbance** |
| **Onset** | 1 month before presentation |
| **Vector** | Long-standing diabetes mellitus with severe hyperglycemia |
| **Associated symptoms** | Bilateral hand tremor, bradykinesia, postural instability |
| **Past history** | Diabetes mellitus |
| **Previous medication** | Levodopa (initiated at local clinic) |
| **Neurologic examination** | ✓ Masked facies (Fig 1-A)<br>✓ Stooped posture (Fig 2-B)<br>✓ UPDRS part III score: 30<br>✓ Hoehn and Yahr stage 3 |
| **Diagnostic assessment** | ✓ Laboratory test: HbA1c 16.2% (marked chronic hyperglycemia) |
| | ✓ Brain MRI(Fig 2)<br>1) Bilateral striatal T1 hyperintensity (consistent with diabetic striatopathy)<br>2) DWI: Small focal hyperintense lesion in left basal ganglia (suggestive of acute infarction) |
| **Therapeutic intervention** | ✓ Levodopa dose titration<br>✓ Intensive glycemic control<br>✓ Rehabilitation program including gait training, functional mobility training, postural stability training |

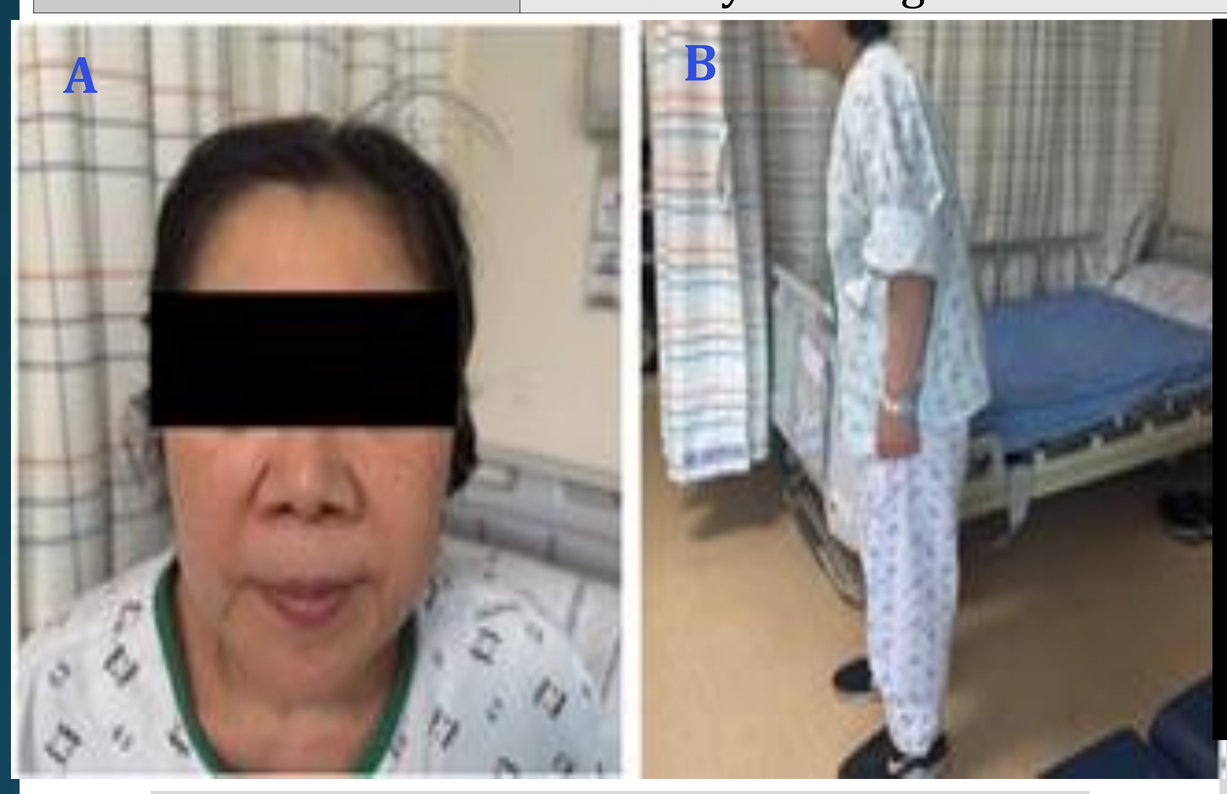


Fig.1 A) Masked face and B) Stooped posture

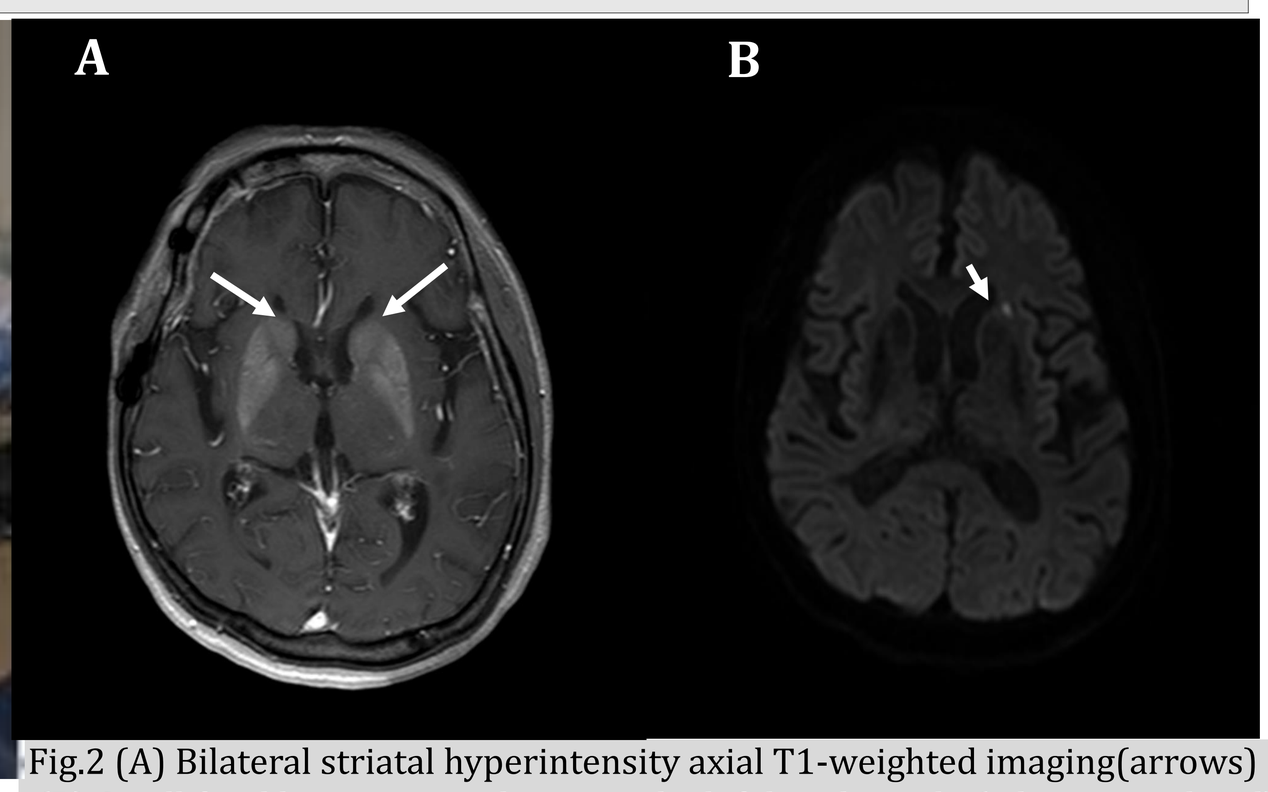


Fig.2 (A) Bilateral striatal hyperintensity axial T1-weighted imaging(arrows) (B) Small focal hyperintense lesion in the left basal ganglia(white arrowhead) on diffusion-weighted imaging

## Outcome

**Medication**
•Glucose control : Diabex 500mg BID, Trajenta 5mg D, Tresiba 6 units before breakfast
•Dopaminergic therapy : Levodopa titration
•Equifina(MAOI-B) was co-administered to control motor symptoms

**Rehabilitation**
•Gait training using Morning walks and Angelegs
•Applied auditory stimulation to maintain a consistent cadence
•OT, Dysphagia therapy, Speech and language therapy

**Electrodiagnostic study**
•Findings : No evidence of abnormal findings

**Functional improvement (Fig.3)**
•Substantial improvement in gait and posture
•Regained ability to ambulate with improved postural stability

| Date | MMSE | BNT | MBI | BBT | UPDRS |
|---|---|---|---|---|---|
| 03.08 | 27 | 46 | 64 | 35 | 30 |
| 03.15 | 28 | 50 | 74 | 42 | 26 |
| 03.22 | 30 | 53 | 82 | 46 | 22 |

Fig.3 Progressive improvement in cognitive and functional outcomes (MMSE, BNT, MBI) and BBT, UPDRS part 3

## Conclusion

• Diabetic striatopathy (DS) usually presents as hyperkinetic movements, but this case highlights an **atypical hypokinetic phenotype**. Levodopa responsiveness in DS patients should raise suspicion for **coexisting idiopathic Parkinson′ s disease (iPD)**.
• Meaningful functional recovery can be achieved through a combination of **dopaminergic therapy, aggressive glycemic control, and tailored rehabilitation**