

Deep Brain Stimulation of the Internal Globus Pallidus in Primary Generalized Dystonia: A Case Report

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Abstract

Introduction: Primary generalized dystonia is a movement disorder characterized by involuntary and sustained muscle contractions, leading to abnormal postures and significant functional impairment. Deep brain stimulation (DBS) of the internal globus pallidus (GPi) has been recognized as an effective therapeutic alternative in cases refractory to pharmacological treatment.¹

Clinical description: A 32-year-old male patient, previously healthy, began experiencing involuntary muscle contractions at age 17, progressing to generalized dystonia over four years. The condition was refractory to multiple pharmacological treatments (anticholinergics, benzodiazepines, and baclofen). Neurological examination revealed severe torticollis, rotation and flexion of the trunk to the left, and dystonic movements in the limbs, with no other findings. The score on the Burke-Fahn-Marsden Dystonia Rating Scale (BFMDRS) was 78/120. After multidisciplinary evaluation, bilateral GPi DBS was indicated. The procedure was uneventful. Initial programming parameters were 130 Hz, 3.2 V, and a pulse width of 60 µs. In the first few weeks, there was progressive improvement in symptoms, achieving a 60% reduction in the BFMDRS score. The patient remains under follow-up, showing significant improvement in daily activities and continues outpatient care every three months.

Discussion: GPi DBS proved to be highly effective in this case, supporting data from the literature regarding its indication in refractory primary dystonia.² Sustained clinical im-

provement over two years demonstrates not only the efficacy of the method but also the safety of the procedure when performed by an experienced team. Key aspects include careful patient selection, individualized programming adjustments, and rigorous follow-up to optimize outcomes.³

Conclusions: Deep brain stimulation of the GPi represents a safe and effective therapeutic alternative for patients with refractory primary generalized dystonia, providing long-lasting functional improvement and significant quality of life benefits.^{2,3}

References

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