When Bradykinesia gets better: sensory tricks in Corticobasal Syndrome

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DESCRIPTION
Sensory tricks are episodic and specific manoeuvres that can ameliorate dystonia.1 They usually involve a stimulus with a resultant change in muscle activity and temporary relief of dystonic muscle contraction. Sensory tricks vary from person to person and within the same individual.1 They are a classical hallmark of primary dystonia and have rarely been reported in secondary dystonia.1 2

We present a case of a woman in her late 50s with a 3-year history of progressive gait impairment and difficulties using her left hand. She was unable to perform bimanual tasks, explaining to us that her left hand could not move as fast as her right hand. Neurological examination revealed a slow gait and reduced arm swing, a right Pisa syndrome and a right head tilt. Bilateral bradykinesia on finger tapping and hand movement manoeuvres were observed—being worst on the left. Speech was preserved but a slight ideomotor limb apraxia for bimanual tasks was observed. Gait improved with the use of a backpack and the velocity of hand movements improved when the patient gently touched the elbow with the contralateral hand (video 1). Gait improvement with the use of the backpack and improvement of bradykinesia with the touch on the elbow suggest the coexistence of dystonia, which improves with sensory tricks (backpack and touch on the elbow). MRI of the brain revealed asymmetric cortical frontal-opercular atrophy and 123I-IBZM showed impaired binding in the right hemisphere. There was no improvement with levodopa up to 600 mg/day.

In the presence of progressive asymmetric, non-dopa responsive, akinetic-rigid Parkinsonism with co-existing dystonia and ideomotor apraxia, associated with the MRI and 123I-IBZM findings, a diagnosis of a probable Corticobasal Syndrome (CBS) was made.

CBS is characterised by the simultaneous presence of cortical and extrapyramidal signs. Apraxia, cortical sensory deficits and alien limb phenomena are the most common cortical signs, whereas asymmetrical Parkinsonism, dystonia and myoclonus comprise the extrapyramidal signs.3 This case highlights the difficulty in assessment of bradykinesia in the presence of other movement disorders, namely dystonia. The misdiagnosis of bradykinesia in the presence of spasticity and pyramidal slowing has been previously reported,4 but the interference of dystonia in the assessment and the possibility of misdiagnosing and/or overrating concomitant bradykinesia is not so well described.

Almost exclusive to dystonia, sensory tricks can help clarify the underlying movement disorder and aid in diagnosis.1 In fact, a recent article promoted kinematic investigation of sensory tricks phenomena in patients with dystonia and found that these manoeuvres improve not only dystonic muscle contraction but also the efficiency of voluntary movement, suggesting a broad influence at the premotor control stage.5 Dystonia is considered one of the classic findings of CBS, usually occurring in the first 2 years of disease onset and affecting mainly the upper limbs.6 However, sensory tricks are typical of primary dystonia, and, to the best of our knowledge, our
Images in... case is the first one illustrating the co-existence of sensory tricks in symptomatic dystonia related to CBS.

In conclusion, although rare, the presence of sensory tricks in dystonia related to CBS should be considered as they may help in the evaluation of the role of ‘true bradykinesia’ and dystonia in an otherwise slow movement. Additionally, the presence of a sensory trick should not make the clinician exclude the diagnosis of a degenerative disorder.

Learning points

► Dystonia can influence the assessment of bradykinesia.
► Almost exclusive to dystonia, sensory tricks can help clarify the underlying movement disorder.
► Sensory tricks are a classical hallmark of primary dystonia and have rarely been reported in acquired forms of dystonia. However, their presence should not make the clinician exclude the diagnosis of a degenerative disorder.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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