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# 'Tricked' sensory trick: a geste antagoniste in functional dystonia

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**SUMMARY**

A sensory trick, or geste antagoniste, is a manoeuvre used by patients with dystonia to ameliorate their dystonic movements or posturing. Typically, a sensory trick is a confirmatory clue indicating an organic nature of the dystonia. In this report, we present an extremely rare case of a sensory trick in a patient with functional dystonia.

**BACKGROUND**

The distinction between primary and functional dystonia can be challenging for diagnosis and management. The presence of a sensory trick can be a helpful sign for clinicians, usually pointing towards an 'organic origin' of the disorder. However, this case report of a sensory trick in a patient with functional dystonia, highlights the lack of specificity of these manoeuvres and alerts physicians to contemplate the whole clinical picture.

**CASE PRESENTATION**

A man in his 40s was referred to our neurology outpatient clinic with a 3-year history of painful posturing of his head and upper limbs, which was aggravated when bending forward and during walking. His medical history included chronic back pain, fibromyalgia, gastro-oesophageal reflux disease, dyslipidaemia and anxiety. The patient reported an acute onset of these movements following a work-related incident, in which he hit his neck on the steering wheel of his bus. Extensive MRI of his head and spine excluded any structural abnormalities. Over the years, his pain and posturing continued to progress, which forced him to stop working as bus driver. His general practitioner had commenced him on a trial of levodopa in the past, which had not been beneficial, and currently, he was not on medications or therapy for his movements. He was never exposed to dopamine-blocking or depleting agents.

On examination, the patient showed an isolated multifocal dystonia with reduced head rotation and mild dystonic jerks of the chin towards his right shoulder. Intermittently, he demonstrated abnormal posturing of both hands during neck movements and walking. Interestingly, the patient had noticed an improvement of his neck posturing and gait when he gently touched the front of his neck as is typical for geste antagoniste ([video 1](#)). The examiner was able to show distractibility of the movements, as well as inconsistency in this self-discovered 'sensory trick'.

**DIFFERENTIAL DIAGNOSIS**

The diagnosis of functional dystonia is purely based on the clinical features. The major differential is primary cervical dystonia, which is idiopathic involuntary oscillatory movements with abnormal posture of the neck.<sup>1</sup>

In order to establish the diagnosis of functional dystonia, secondary causes of cervical dystonia ought to be considered, such as cervical sprain, Huntington disease, parkinsonism, multiple sclerosis and Wilson's disease. Conditions that mimic dystonia are referred to as pseudodystonia, such as dystonic tics, atlantoaxial subluxation, congenital muscular and torticollis.<sup>2</sup>

Physical exam demonstrated features of incongruence and inconsistency (movements varied over time and suppressed by complex cognitive tasks). Therefore, the dystonia in this patient met the current Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria for functional neurological disorders.<sup>3</sup>

**OUTCOME AND FOLLOW-UP**

The patient was given education and reassurance and was referred for a neuropsychological assessment and physical therapy. He accepted the diagnosis and showed some mild improvements in his symptoms after working on coping strategies. He was also referred to the chronic pain service for his widespread pain syndrome, including chronic back pain, which contributes to some of his symptoms.

**DISCUSSION**

The sensory trick is an episodic and voluntary manoeuvre that alleviates dystonic posturing and/or movements. The phenomenon, also known as 'geste antagoniste', was first described in 1902 by Henry Meige and Eugene Feindel in patients with cervical dystonia.<sup>4</sup>

For most of the 20th century, the gesture was interpreted as proof for an underlying functional origin of dystonia, and patients were treated by psychoanalysis. It was the British neurologist David Marsden in the 1970s, who established the organic basis of cervical dystonia and other dystonic syndromes.<sup>5</sup> His model of dystonia as a disease of sensorimotor integration changed the pendulum to swing towards organic causation. Although the exact pathophysiological mechanism of sensory tricks remains currently unclear, the presence of a sensory trick is considered one of the strongest clues for an organic aetiology.

Sensory tricks are most prevalent in cervical dystonia and blepharospasm, with rates varying



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**Video 1** Mild dystonic jerks of the neck and reduced head rotation. During rotation, the patient develops short-lasting posturing of both upper limbs (segment A). The patient can alleviate his reduced head movements by gently touching the front of his neck (segment B). Anterocollis and upper limb posturing while walking, which both significantly improve with the use of his sensory trick (segment C). Inconsistency of the sensory trick when straightening up from bent forward stance (segment D).

between 17% and 89%.<sup>6</sup> Typically, these manoeuvres are characterised by light touch of a particular skin area, for example, a finger touching the cheek in cervical dystonia or wearing goggles in blepharospasm. However, a variety of non-tactile stimuli, including visual, auditory and thermal tricks, have been described. Interestingly, sensory input seems to be not a necessity, and some patients ameliorate their dystonia by only the thought of their sensory trick.<sup>7</sup> One might argue that these ‘imaginary tricks’ border on the clinical use of psychological suggestion, which can be a clue suggesting a functional origin.<sup>8</sup>

In 2004, Munhoz and Lang reported a unique case of a geste antagoniste in a patient with functional craniocervical dystonia whose dystonic movements also could be relieved using a tuning fork.<sup>9</sup> Although examiner manoeuvres can show an improvement or aggravation of movements and may hint towards functional dystonia, they are not necessarily present.<sup>10</sup> Our diagnosis of a functional movement disorder was based on the key features of inconsistency and incongruency during neurological examination.

Functional movement disorders account for 15%–33% of patients in movement disorders outpatient clinics.<sup>11</sup> In the spectrum of functional movements, dystonia is considered the second most common subtype after tremor. Historical clues that are suggestive of functional dystonia include abrupt onset, waxing and waning over time, and adult age of onset. Pain is frequently present in patients with functional dystonia, especially in patients with fixed dystonia.<sup>12</sup> Other non-motor symptoms that have demonstrated to be supportive of a functional origin are fatigue, cognitive and behavioural symptoms, and psychiatric disturbances.<sup>13</sup>

However, diagnosis should be established on positive signs found during neurological examination. Core features of functional dystonia include a fixed posture at rest, variable resistance to passive manipulation, and/or distractibility or absence of dystonia when unobserved. In comparison to patients with primary dystonia, sensory tricks are less likely described.<sup>14 15</sup> When present, these tricks are often atypical, including dystonic movements transferring to other body parts or forcible tricks, which necessitate the use of force and are always antagonistic to the direction of the dystonia.<sup>16</sup>

Delivering the diagnosis of functional dystonia requires the art of medicine and using the right language to establish rapport with the patient. Using the term ‘functional neurological disorder’

rather than terms such as ‘psychogenic’ is more acceptable and reflects the heterogeneity and reversibility of the condition. It is important for a neurologist to validate the symptoms, name the condition, explain it and discuss biopsychosocial management with optimism. One of the successful methods used to delivery diagnosis of functional neurological disorders is to explain the analogy of a software problem rather than a hardware issue, and ‘the computer crushes’ temporarily.<sup>17</sup> This method was very effective in delivering the diagnosis in this case and the patient accepted the diagnosis.

This case may not only reflect the importance of basing the diagnosis of dystonia not solely on a sensory trick, but also highlight one of the grey zones between functional and organic movement disorders.

### Learning points

- ▶ Sensory tricks may be diagnostically helpful in patients with dystonia, typically pointing in the direction of an organic origin.
- ▶ However, a sensory trick does not rule out the possibility of a functional dystonia, and clinicians should take the full picture into account during their evaluation of patients with movement disorders.
- ▶ Sensory tricks in functional dystonia are often atypical and might cause dystonic posturing in other body parts (inconsistency) or require the use of force (incongruency).

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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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