

# Dystonia induced by peripheral trauma

## Organic or psychogenic?

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Dystonia is defined as a syndrome of sustained muscle contractions, frequently causing twisting and repetitive movements or abnormal postures. A cause-and-effect relationship between brain injury and subsequent movement disorder is well established, but a link with peripheral trauma is more controversial<sup>1</sup>. Our objective is to discuss the challenge of the differential diagnosis between organic or psychogenic dystonic posture in a patient with post-traumatic hand dystonia.

### Patient

A 16-year-old right-handed girl developed an abnormal posture of the right hand one week after a fall. The symptoms got steadily worse and a fixed posture (flexion and subluxation of the third and fourth right fingers, flexion and adduction of the right thumb and flexion of the right wrist) soon developed with complete loss of function of the hand. Oral drug treatment was ineffective. After four subsequent applications of botulinum toxin type A she was able to move her thumb and partially her second and third fingers. She required a three-step surgical approach due to subluxations over 17 months. MRI of the brain and right brachial plexus were normal. The patient has a stable moderate improvement of the symptoms. Many subsequent psychiatry evaluations failed to disclose any psychiatric disturbances. Three years later she had another trauma on the right shoulder but did not develop any movement disorder.

In 2001, Jankovic<sup>2</sup> proposed the following criteria for the diagnosis of peripherally induced movement dis-

orders: [1] the trauma is severe enough to cause local symptoms for at least two weeks; [2] the initial manifestation of the movement disorders is anatomically related to the site of injury; [3] the onset of the movement disorders is within days or months (up to one year) after the injury. On the other hand, clues to the diagnosis of psychogenic dystonia, according to Fahn and Williams<sup>3</sup> are: [1] sudden onset; [2] spontaneous remissions; [3] paroxysmal occurrence; [4] change of frequency, amplitude and pattern; [5] distractibility; [6] inconsistent and incongruous movements; [7] beginning as a fixed posture; [8] response to placebo, suggestion or psychotherapy.

Our patient fulfilled all of the Jankovic's criteria for the diagnosis of organic dystonia induced by peripheral trauma, that is: severe injury; anatomical relationship to the site of injury; and onset one week after the trauma. Its pathophysiology is not fully understood; however, several evidences suggest that an asymptomatic underlying dysfunction of the central nervous system plays a significant role in this abnormal movement<sup>2,4</sup>. In spite of considering this an organic movement, it is important to remember that complete recovery is rare<sup>2</sup> after surgical intervention in organic dystonia and so it could reinforce a probable psychogenic origin. If we take into account the sudden onset, the fixed posture and the incongruous movement, all are in favor of a psychogenic dystonia. In contrast this patient never had a history of an affective disorder. A clear diagnostic is often difficult to establish but we believe that our patient has an organic origin although she had unusual features.

In summary, our patient fulfilled Jankovic's criteria for the diagnosis of organic dystonia induced by peripheral trauma; however, recovery is exceptional after surgical intervention in organic dystonia. We should emphasize the great difficulty on the differential diagnosis between organic and psychogenic dystonia.

## REFERENCES

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## **DISTONIA INDUZIDA POR TRAUMA PERIFÉRICO: ORIGEM ORGÂNICA OU PSICOGÊNICA**

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