Case Report

An Unusual Sensory Trick in A Case of Cervical Dystonia

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Summary

Dystonia is characterized by sustained involuntary muscle contractions. Typical signs of dystonia include sensory tricks or geste antagonists. Here, we report an unusual sensory trick in a case of cervical dystonia. A 40 years-old male patient admitted with involuntary contractions involving neck and left shoulder, started one month after dental procedures and use of dentures. He had to get the dentures removed but involuntary contractions persisted. All involuntary movements were blocked by soft massage movements over the region where the dental implant was removed from and reappeared when he stopped. Light touch as a sensory trick in cervical dystonia, like in our patient is not uncommon but the localization is very atypical. It might have two reasons: other cervical dystonia patients may not think of such a strange manoeuvre or previous dental procedures likely triggered dystonia and tactile stimulation of the same pathway probably provides central adaptation.

Key words: Cervical dystonia, Dental procedures, Sensory trick, Geste antagonist

Servikal Distonili Bir Olguda Sıradışı Bir Duysal Hile

Özet


Anahtar Kelimeler: Servikal distoni, Dental işlem, Duysal hile, Düzeltici dokunuş
INTRODUCTION

Dystonia is characterized by sustained involuntary muscle contractions causing twisting and abnormal posturing\(^{(3)}\). Typical signs of dystonia include sensory tricks or geste antagonists which are smooth voluntary activities that reduce involuntary contractions. Reported types of sensory tricks are light touch to face/neck or eyes in cervical dystonia\(^{(9)}\) and vocalisations such as singing, reading or speaking in oromandibular dystonia\(^{(18)}\).

Here, we report an unusual and rarely encountered sensory trick in a case of cervical dystonia.

CASE PRESENTATION

A 40 years-old male patient admitted with involuntary contractions involving neck and left shoulder. His first complaint was tension on the left half of neck and started in January 2013, one month after dental procedures and use of dentures. He did not have history of any disorders and drug use and family history of any movement disorders. The complaints were progressive and evolved to involuntary contractions of forehead and twitches of left shoulder. He also described difficulty with writing for six years. He had to get the dentures removed but involuntary contractions persisted.

Neurological examination revealed dystonic contraction of neck and left shoulder. Neck was in lateroflexion posture and was not fixed. Shoulder was involuntarily contracting mainly upwards due to contraction of trapezius muscle and some irregular twitches were observed. All involuntary movements were blocked by soft massage movements over internal surface of left lower molar teeth, the region where the dental implant was removed from, and reappeared when he stopped (video). There were no other sensory tricks. He did not have pyramidal, cerebellar or extrapyramidal findings. Cognitive examination was normal (MMSE score: 30/30). Cranial and cervical MRIs were normal. Needle electromyography showed dystonic contractions over left trapezius, left splenius capitis and left cervical paraspinalis muscles. Clinically, our diagnosis was segmental dystonia, probably primary. Therefore, he was injected 300 U of botulinum toxin A (Botox®) into bilateral trapezius, splenius capitis and left levator scapula muscles. Despite the improvement of cervical movements, he required administration of trihexyphenidyl due to extremity dystonia.

http://jns.dergisi.org/images/figur_790.avi

DISCUSSION

Sensory tricks in cervical dystonia are generally defined as self-developed recovery by light touching\(^{(6-7)}\). Touching the chin, cheek, occiput, temple, forehead or supporting the head with one hand are the sensory tricks that has been reported previously\(^{(7)}\). It usually composed of an action close to the daily routine activities. For sensory feedback, the physical contact is not necessary\(^{(9)}\). Lee and colleagues reported a patient whose involuntary muscle contractions of the neck were relieved by classical sensory tricks such as touching her cheek and grasping the posterior neck and interestingly by visual manoeuvres, such as looking at herself in the mirror. Further examination revealed that other visual sensory tricks such as staring at a specific target and focusing on stationary objects while walking were also effective to alleviate her dystonic movement\(^{(4)}\).

Sensory tricks have been reported to be associated with complex sensory-motor integration processes\(^{(1)}\). Positron emission tomography studies reported that sensory tricks cause activation in the parietal lobe and occipital cortex and decreased the activity of supplementary motor area\(^{(2,5)}\). Abnormal posture is normalized by this way. Secondly, sensory tricks change the central adaptation and allow the
stabilization of posture\(^{7}\). Sensory tricks cause desynchronization between the globus pallidus and the sensory-motor cortex\(^{8}\). Sensory tricks as tactile impulses that are thought to modulate sensory (proprioceptive) input and affect sensory-motor integration processes in the brain. As a result, the activation of the motor cortex decreases which leads to the reduction of the activity of dystonic muscles.

Light touch as a sensory trick, like in our patient, is not uncommon but the localization is very atypical. It might have two reasons: i. other cervical dystonia patients may not think of such a strange manoeuvre or ii. previous dental procedures likely triggered dystonia and tactile stimulation of the same pathway probably provides central adaptation.

**REFERENCES**