Neurol Sci (2017) 38:1341–1342
DOI 10.1007/s10072-017-2913-x

LETTER TO THE EDITOR

Sensory trick in task-specific tremor

C. F. Bagella[1] · L. M. Romito[1] · V. Scaioli[2] · A. E. Elia[1]

Received: 15 November 2016 / Accepted: 13 March 2017 / Published online: 18 March 2017

Isolated position-specific or task-specific tremors (TST) are subtypes of the essential tremor (ET) which are characterized by task-specific tremor that occurs with a specific task [1, 2]. Primary writing tremor is the most frequent example of such a tremor and arises in specialized fields of motor performance. Other examples include specific tremors in musicians and athletes. Given its rarity, TST pathophysiology is yet unknown. We describe a case of a sensory trick associated with TST which expands the clinical phenotype of TST syndromes.

The patient is a 66-year-old, right-handed woman of Italian origin. Her parents were unrelated and did not suffer from any neurological disorders. She is in good health, not requiring any medications on long-term basis.

During the last 2 years, she has developed mild action tremor in the left hand, which has a progressive course. The tremor gradually became of a very wide amplitude and was induced especially by the task of holding a solid object, such as a dish or a tray at a horizontal extension. The sensory trick is characterized by sensory stimulation by touching the left wrist with the right hand. There was no evidence of mirror movements or overflow. The remaining neurological examination was normal.

She was treated with clonazepam, alprazolam, duloxetina, propranolol, and escitalopram without any benefit. Propranolol was poorly tolerated by the patient as it induced the sense of "frost" in the left hand. Basic investigations including MRI and standard EEG were entirely normal. Multiple simultaneous electromyography recordings (mapping) were performed and showed the alternate contraction of agonists and antagonists without sustained simultaneous contractions, thus confirming the diagnosis of TST. A treatment with botulinum toxin injection in the pronator teres muscle was proposed, but the patient did not consent to treatment.

Sensory tricks are forms of tactile stimulations which lead to transient improvements in posture or spasm amplitude in cervical or other forms of dystonia.

The presence of alleviating maneuvers, as sensory tricks or gestes antagonistes, is considered a supporting evidence for the diagnosis of dystonia. They are proposed as additional clinical signs due for the diagnosis of dystonia, particularly when the full-house phenomenology is not observed [3]. In addition, sensory tricks do not improve non-dystonic essential head tremor, and they are proposed as an important criterion for the differential diagnosis between dystonia and ET [4].

The phenomenon of sensory tricks has been described as a clinical hallmark which can detect dystonic movements in patients affected by other movement disorders as tics or tremor. In the syndrome of tardive tremor, the presence of a sensory trick has been associated with the diagnosis of

Electronic supplementary material The online version of this article (doi:10.1007/s10072-017-2913-x) contains supplementary material, which is available to authorized users.

✉ A. E. Elia
antonio.elia@istituto-besta.it

C. F. Bagella
caterina.bagella@tin.it

L. M. Romito
luigi.romito@istituto-besta.it

V. Scaioli
vidmer.scaioli@istituto-besta.it

[1] Department of Movement Disorders, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

[2] Department of Neurophysiopathology and Epilepsy Centre, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

dystonic tremor; in Tourette syndrome, the presence of a sensory trick has been reported as a feature associated to dystonic tics [5].

Task and position-specific tremors are forms of tremor that shares specific situations of activation as a common feature [1]. It is still unknown whether these tremors represent a type of ET, a variant of dystonia, or a third, distinct pathophysiological entity. The previous studies suggest that such tremors are fairly typical for dystonic tremor [6]. Our patient presents action tremor of the left hand, especially induced by the task of holding a dish or a tray. The phenomenology is enriched by the presence of a sensory trick, thus strengthening the notion that TST may be dystonic in nature.

Acknowledgements The authors are thankful to the medical writer Dario Zanetti for the assistance in editing the manuscript.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Statement for videotape The patient gave consent to be videotaped for publication.

References

1. Deuschl G, Bain P, Brin M (1998) Consensus statement of the Movement Disorder Society on Tremor. Ad Hoc Scientific Committee. Mov Disord 13(Suppl 3):2–23
2. Elble RJ (2016) The essential tremor syndromes. Curr Opin Neurol 29(4):507–512
3. Albanese A, Lalli S (2009) Is this dystonia? Mov Disord 24(12):1725–1731
4. Masuhr F, Wissel J, Muller J, Scholz U, Poewe W (2000) Quantification of sensory trick impact on tremor amplitude and frequency in 60 patients with head tremor. Mov Disord 15(5):960–964
5. Gilbert RW (2013) Tic modulation using sensory tricks. Tremor other Hyperkinet Mov (N Y) 3
6. Erro R, Ciocca M, Hirschbichler ST, Rothwell JC, Bhatia KP (2015) Primary writing tremor is a dystonic trait: evidence from an instructive family. J Neurol Sci 356(1–2):210–211