Tremor and Other Hyperkinetic Movements

Holmes Tremor After a Postpartum Thalamic-Subthalamic Lesion

VIDEO ABSTRACTS

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ABSTRACT

Background: Holmes tremor is a low-frequency syndrome combining rest, postural, and intention tremor that may emerge after a delay following a focal brain lesion.

Phenomenology Shown: A 27-year-old woman developed a large-amplitude right upper-limb tremor 3 months after acute postpartum right hemiparesis; examination showed mild residual spastic weakness, mixed rest, postural, and intention tremor, and subtle intermittent flexion and spreading of the right fingers, most evident in the ulnar digits, while later magnetic resonance imaging showed a chronic left thalamic-subthalamic cavity.

Educational Value: The latency, mixed activation conditions, structural concordance, and moderate improvement with sequential pharmacologic therapy support recognition of post-lesional Holmes tremor, with the subtle finger posture regarded as an associated rather than defining feature.

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Holmes tremor; delayed onset; thalamus; post-lesional tremor; levodopa

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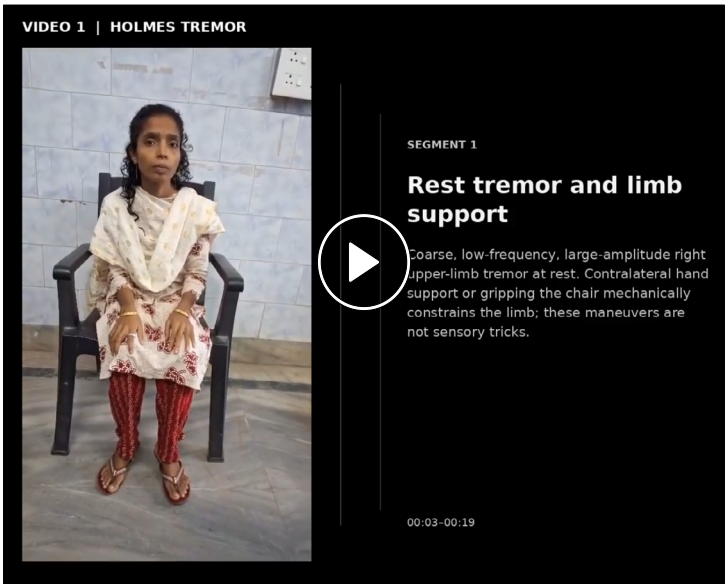
A 27-year-old right-handed woman developed acute right hemiparesis several days after her first vaginal delivery, 6 years before our evaluation. She was treated at another institution for a presumed stroke. No additional information regarding that event was available, including the etiologic workup, acute neuroimaging findings, or discharge documentation. No tremor was reported at onset. Three months later, a coarse, slow, large-amplitude tremor emerged in the right upper limb and persisted, interfering with fine motor tasks.

Examination showed mild residual right spastic hemiparesis (Medical Research Council grade 4+/5 in the upper and lower limbs), grade 1 spasticity on the Modified Ashworth Scale, brisk tendon reflexes, and an extensor plantar response. The video shows a coarse right upper-limb tremor at rest, persisting with the arms outstretched and in the wing-beating posture, and worsening markedly during finger-to-nose testing (Video 1). During postural activation, the right fingers show subtle intermittent flexion and spreading, most evident in the ulnar digits. The posture is nonfixed; no other definite dystonia is evident. At times, holding the affected hand with the left hand or gripping the chair mechanically constrains the limb and reduces tremor amplitude; these maneuvers are not sensory tricks.

Magnetic resonance imaging showed a small chronic cavity in the left thalamic-subthalamic region, hypointense on T1-weighted images and hyperintense on T2-weighted images (Video 1, final segment). The acute hemiparesis suggests a vascular event, but the available documentation does not establish whether the lesion was ischemic or hemorrhagic.

Treatment began with levodopa/carbidopa 100/25 mg, one-half tablet three times daily for 4 days and then one tablet three times daily. Because disabling tremor persisted, levetiracetam 500 mg twice daily, trihexyphenidyl titrated from 1 mg twice daily to 2 mg three times daily, and clonazepam 0.25–0.5 mg at bedtime were used sequentially. The overall regimen produced moderate improvement.

The combination of low-frequency rest, postural, and intention tremor after a focal structural brain lesion supports Holmes tremor [1]. A 3-month latency is typical: in a 29-patient series, the median latency was 2 months,



Video 1 Right upper-limb Holmes tremor.

00:00–00:03. Title card.

00:03–00:19. Segment 1: Rest tremor and limb support. The patient is seated with a coarse, low-frequency, large-amplitude right upper-limb tremor at rest. She intermittently supports the affected limb with the left hand or by gripping the chair; these maneuvers mechanically constrain the limb and are not interpreted as a sensory trick.

00:19–00:33. Segment 2: Closer view at rest. An oblique close-up demonstrates the right upper-limb rest tremor and intermittent contralateral hand support.

00:33–00:49. Segment 3: Postural tremor and subtle finger posturing. With both arms outstretched and palms pronated, the right upper-limb tremor persists. Subtle intermittent flexion and spreading of the right fingers, most evident in the ulnar digits, accompanies postural activation. The posture is nonfixed, and no other definite dystonia is evident in the recorded examination.

00:49–01:08. Segment 4: Wing-beating posture. Tremor persists with the shoulders abducted and elbows flexed.

01:08–01:28. Segment 5: Kinetic and intention tremor. Repeated right finger-to-nose testing demonstrates prominent tremor during goal-directed movement with increasing amplitude near the target.

01:28–01:36. Segment 6: Structural correlate. Axial T2-weighted and T1-weighted magnetic resonance images show the chronic cavity in the left thalamic-subthalamic region. The displayed images are from the later study; acute and interval imaging were unavailable.

and vascular lesions were the most frequent etiology [2]. Pharmacologic responses are variable; levodopa has the most consistent observational support, whereas evidence for other agents remains limited [2, 3]. The teaching point is the delayed emergence of a mixed tremor syndrome after a thalamic-subthalamic lesion, with minor dystonic posturing treated as an associated sign rather than the defining feature.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case, including the accompanying clinical images and identifiable video.

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COMPETING INTERESTS

Julián Benito-León is a member of the Editorial Board of Tremor and Other Hyperkinetic Movements and was not involved in the editorial assessment or decision-making for this article. The remaining authors have no competing interests to declare.

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