

Teaching Video NeuroImages: Cold-induced eyelid myotonia



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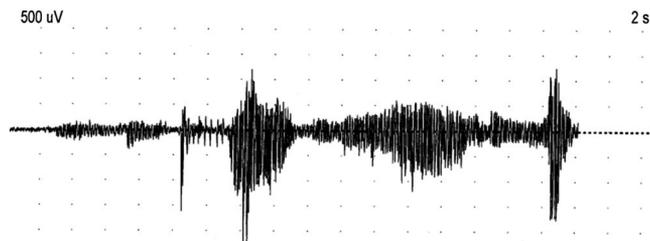
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Figure 1 Cold-induced right eyelid myotonia



When repetitively opening and closing eyes, the right eyelid stiffness with difficult opening is produced after applying ice to it and worsens after repeated movement with the feature of paradoxical myotonia, in contrast to the left eye without cold exposure.

Figure 2 EMG study



Myotonic discharge was recorded over the right thenar eminence at room temperature.

A 48-year-old man presented with episodic paraplegia and stiffness of hands, face, and tongue, along with eyelid myotonia when exposed to cold temperature, which he had since childhood. Eyelid myotonia was evoked either by exposure to cold weather (video on the *Neurology*[®] Web site at www.neurology.org and figure 1) or by forceful eye closure. Myotonia was elicited with percussion of the tongue and thenar eminence. EMG showed myotonic discharge at room temperature (figure 2). Creatine kinase was mildly elevated to 293 U/L. The genetic study showed missense mutation (R1448C) in the voltage-gated sodium channel, type IV, alpha subunit (*SCN4A*).¹ The patient's daughter had the same genetic mutation and similar symptoms.

AUTHOR CONTRIBUTIONS

The first author, Dr. Yi-Jen Wu, has done the work for the manuscript writing, clinical history taking, neurology examination, and the collections of all the laboratory examinations with the supervision of Dr. Chou-Ching Lin, the corresponding author.

DISCLOSURE

Y.-J. Wu reports no disclosures. C.-C. Lin received funding for a trip from Allergan, holds patents of skull endosseous implant and forearm rehabilitation and torque measurement device, has a pending patent for ankle rehabilitation apparatus, is funded by National Science Council (Taiwan) grants NSC99-2628-B-006-002-MY3 and NSC99-2221-E-006-017-MY3, and received research support from Bayer. Go to Neurology.org for full disclosures.

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Supplemental data at
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