

Teaching Video NeuroImages: Myokymia and nerve hyperexcitability as components of Morvan syndrome due to malignant thymoma

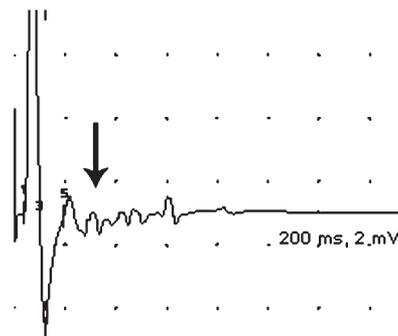


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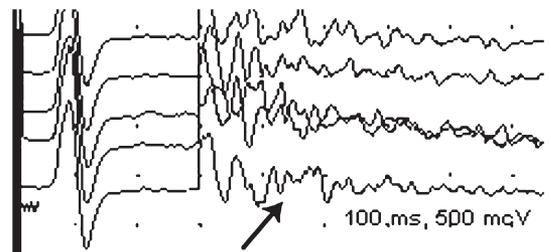
A 50-year-old woman with a history of metastatic malignant thymoma presented with diffuse neuropathic pain involving the extremities and torso prior to chemotherapy and radiation. She also developed episodic diarrhea, diaphoresis, fevers, insomnia, and encephalopathy. Examination revealed rippling muscles (video on the *Neurology*[®] Web site at www.neurology.org). Prolonged afterdischarges were noted in motor nerve studies, suggestive for nerve hyperexcitability (figures 1 and 2). Electromyography (approximately 8 years after mediastinal radiation) revealed fasciculations, doublets, triplets, and myokymic discharges. Elevated serum antibodies for voltage-gated potassium channel (0.30 nmol/L, normal <0.02) and striational muscle (1:30,720, normal <1:60) were suggestive of paraneoplastic Morvan syndrome, which includes all of the features noted in our case.^{1,2} The CNS features of Morvan syndrome differentiate it from Isaac syndrome, which is most often due to an autoimmune etiology. A substantial proportion of Morvan syndrome cases are paraneoplastic, the majority of which are due to thymomas.¹

Figure 1 Median nerve compound motor action potential



Prolonged afterdischarges (arrow) noted with single stimulation of median nerve at the wrist, recording at abductor pollicis brevis.

Figure 2 Tibial nerve F-wave recording



Prolonged afterdischarges (arrow) obscure the tibial F waves.

AUTHOR CONTRIBUTIONS

Rimas V. Lukas and Ravi Salgia contributed to the design and conceptualization of the study. Ravi Salgia contributed to the recording of the video. Rimas V. Lukas and Kourosh Rezaia contributed to the drafting of the manuscript. Rimas V. Lukas, Kourosh Rezaia, Monica Malec, and Ravi Salgia contributed to the revising of the manuscript.

DISCLOSURE

R. Lukas received honoraria from American Physician Institute for delivering CME Board review courses; received honoraria from the National Brain Tumor Association for composition of patient education materials; has received compensation for medical review of published material for EBSCO Publishing; and received funding for travel from the Wuhan University Medical Education Reform (WUMER) project. K. Rezaia received honoraria for consulting for Depomed Inc. M. Malec's spouse has received funding from AAOS for travel to Boston for LMSA meetings; received research support from Synthes and Arthrocare for SL ligament reconstruction research and from X-blocker for radiation attenuation research; received support from the following sources for the University of Illinois-Chicago orthopedic educational research fund for construction of resident education symposia: Acumed, Arthrex, Biomet, C-Spine, Depuy, Medtronic, Medartis, Orthologic, Smith-Nephew Richards, Synthes, Trimed, X-blocker, and Zymmer; and has provided several treating physician depositions. R. Salgia has received compensation for serving on the scientific advisory boards of Cephalon, Genentech, and Daiichi-Sankyo; receives research support from the following NIH/NCI grants: 5R01CA100750-09, 5R01CA125541-05, 5R01CA129501-05, 3R01CA129501-02S1, 5P01HL058064-17; receives research support from the Respiratory Health Association of Metropolitan Chicago; and receives royalty payments for inventions from the Dana-Farber Cancer Institute. Go to Neurology.org for full disclosures.

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Supplemental data at
www.neurology.org

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