Teaching Video NeuroImages: Muscle cramps and a raised creatine kinase

A 40-year-old man presented with a 25-year history of cramps affecting the abdomen, neck, and limbs. Examination revealed fasciculation in the forearms, abdomen, and chin (video on the Neurology® Web site at Neurology.org). There was shoulder girdle wasting with bilateral mastectomy scars (figure, B and C). Creatine kinase (CK) was 1,650 U/L (normal < 310 U/L). Electrodiagnostic studies revealed sensory neuronopathy with neurogenic changes on EMG. Genetic testing demonstrated excess CAG repeats in the androgen receptor gene, confirming Kennedy disease.1 This X-linked disorder is the most common adult-onset spinal muscular atrophy. CK can be markedly raised.2 Gynecomastia results from androgen insufficiency and can precede the development of neurologic symptoms.

AUTHOR CONTRIBUTIONS
Dr. Whittaker: design/conceptualization of the study, analysis/interpretation of neurophysiology data, drafting/revising the manuscript. Prof. Chinnery: drafting/revising the manuscript. Dr. Miller: drafting/revising the manuscript.

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Figure Relevant examination findings

(A) Perioral fasciculation and grouped motor unit discharges in a patient with Kennedy disease (video). (B) Shoulder girdle weakness and wasting with bilateral scapular winging. (C) Scars from bilateral mastectomies performed at age 15 for gynecomastia.

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REFERENCES
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