Teaching Video NeuroImage: Myokymia on Muscle Ultrasound in Radiation-Induced Brachial Plexopathy

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Neurology® Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.
Contributions:
Michaël T.J. Peeters: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data
Nadia A. Sutedja: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data
Martinus P.G. Broen: Drafting/revision of the manuscript for content, including medical writing for content; Study concept or design; Analysis or interpretation of data

Number of characters in title: 98

Abstract Word count: 0

Word count of main text: 105

References: 2

Figures: 1

Tables: 0

Supplemental: - Patient consent-to-disclose form - Teaching Video demonstrating myokymia clinically, on EMG and muscle ultrasound- Teaching slides


Study Funding: The authors report no targeted funding

Disclosures: The authors report no disclosures relevant to the manuscript.
A 65-year-old women presented with right arm weakness and paresthesia. She had undergone radiotherapy for a supraclavicular metastasized lung cancer eight years ago. Examination revealed weakness, wasting and wavelike involuntary contractions in the right deltoid, triceps and dorsal interossei muscles. EMG confirmed a brachial plexopathy with additional myokymic discharges. Spontaneous semi-rhythmic contractions with a rotatory or to-and-fro component were seen on muscle ultrasound, compatible with myokymia (Video 1).

Myokymic discharges indicate radiation-induced plexopathy rather than tumor recurrence or other plexopathy forms, probably because myokymia arise from radiation-induced membrane instability and ectopic neural activity. Muscle ultrasound is a promising non-invasive tool for its detection, complementary to EMG. (1, 2)

**Video 1. Clinical, EMG and ultrasound findings compatible with myokymia.**

Part I: Examination reveals involuntary, wavelike contractions of the right deltoid muscle. Part II: EMG demonstrated grouped repetitive spontaneous discharges within the same motor unit with a sound resembling marching soldiers. Part III: ultrasound shows semi-rhythmic contractions with a rotatory component. These findings are characteristic for myokymia.

Video 1-http://links.lww.com/WNL/B643

Teaching Slides-http://links.lww.com/WNL/B644

**References**

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*Neurology* published online October 29, 2021

DOI 10.1212/WNL.0000000000013019

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