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

Author(s):

Michaël T.J. Peeters, MD¹; Nadia A. Sutedja, MD, PhD¹; Martinus P.G. Broen, MD, PhD^{1,2}

Corresponding Author:

Michaël T.J. Peeters
m.t.j.peeters@gmail.com

Affiliation Information for All Authors: 1. Department of Neurology, Maastricht University Medical Center, Maastricht, The Netherlands; 2. GROW- School for Oncology and Developmental Biology, Maastricht University, Maastricht, The Netherlands

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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

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

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A 65-year-old woman 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>

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