A 72-Year-Old-Women With Clenched Fists

Teaching Video NeuroImages

Neurology®

Resident & Fellow Section

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Vignette

- A 72-year-old-woman presented with a 7-year-history of bilateral hand cramps, frequently resulting in “clenched fists”.
- Examination revealed clenched fists bilaterally in the resting state and pseudomyotonia with incomplete relaxation following active finger extension (Fig1A-C).
- Needle EMG of the forearm flexors demonstrated typical findings that clinched the diagnosis (Fig2).
- Significant clinical improvement was observed following treatment with botulinum-toxin injections and oxcarbazepine (Fig1D-F).

Image

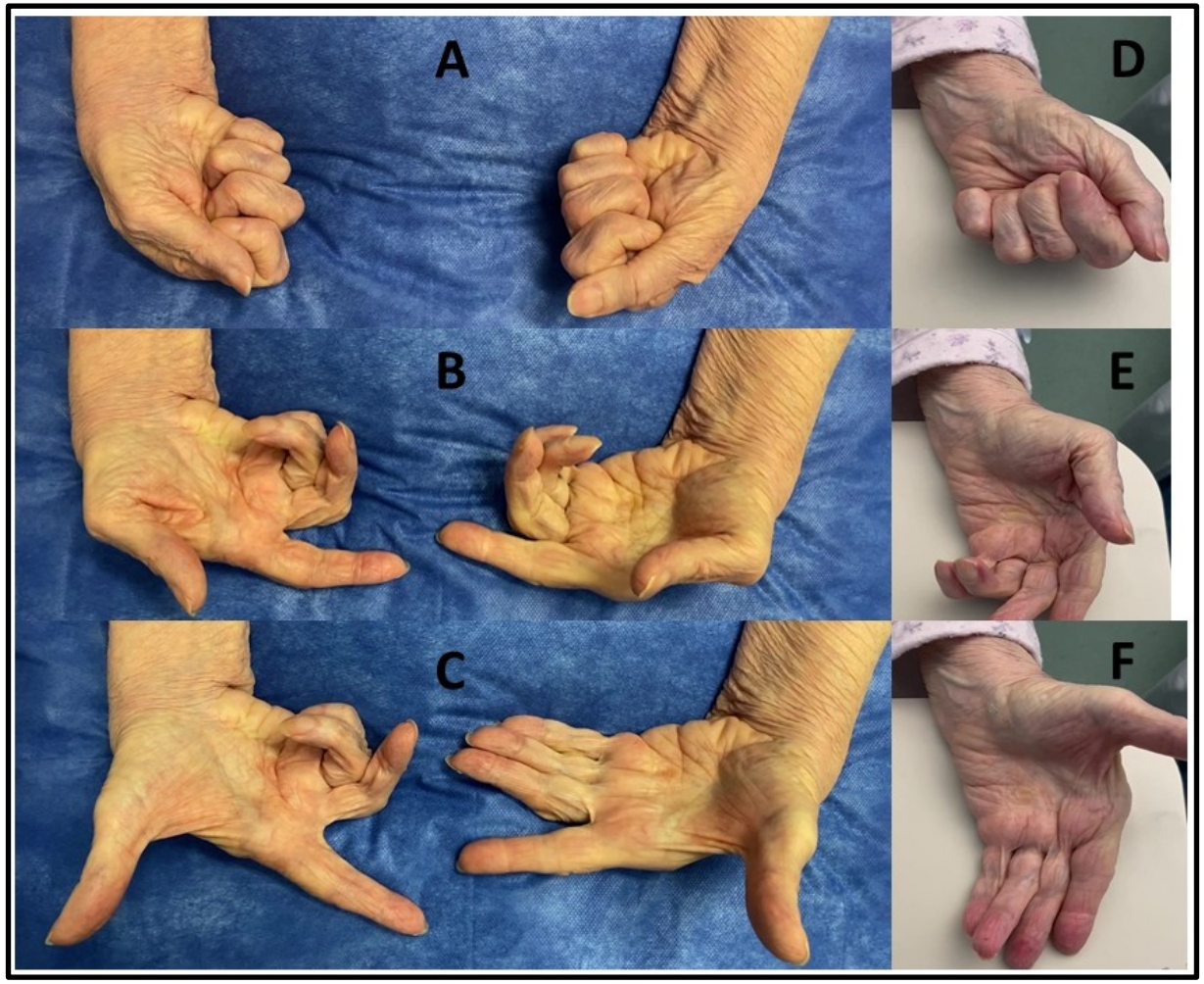

Figure 1.

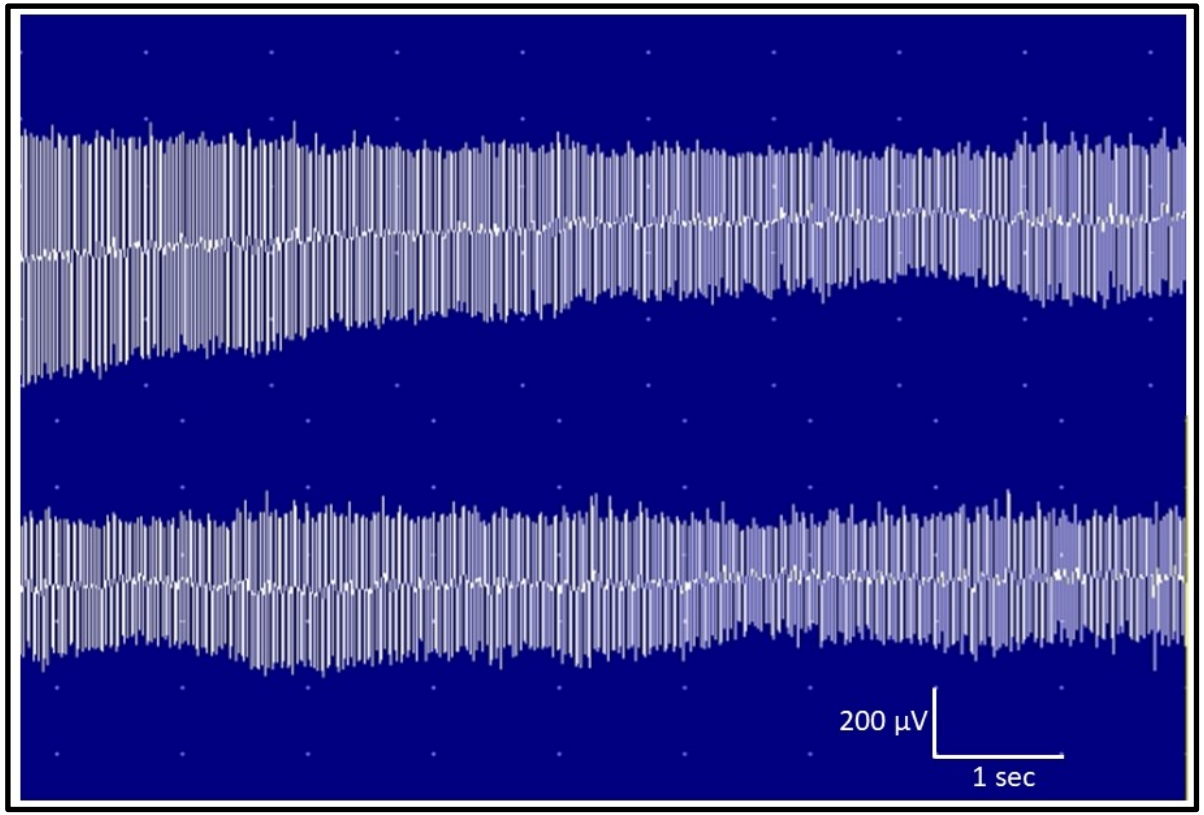

Figure 2.

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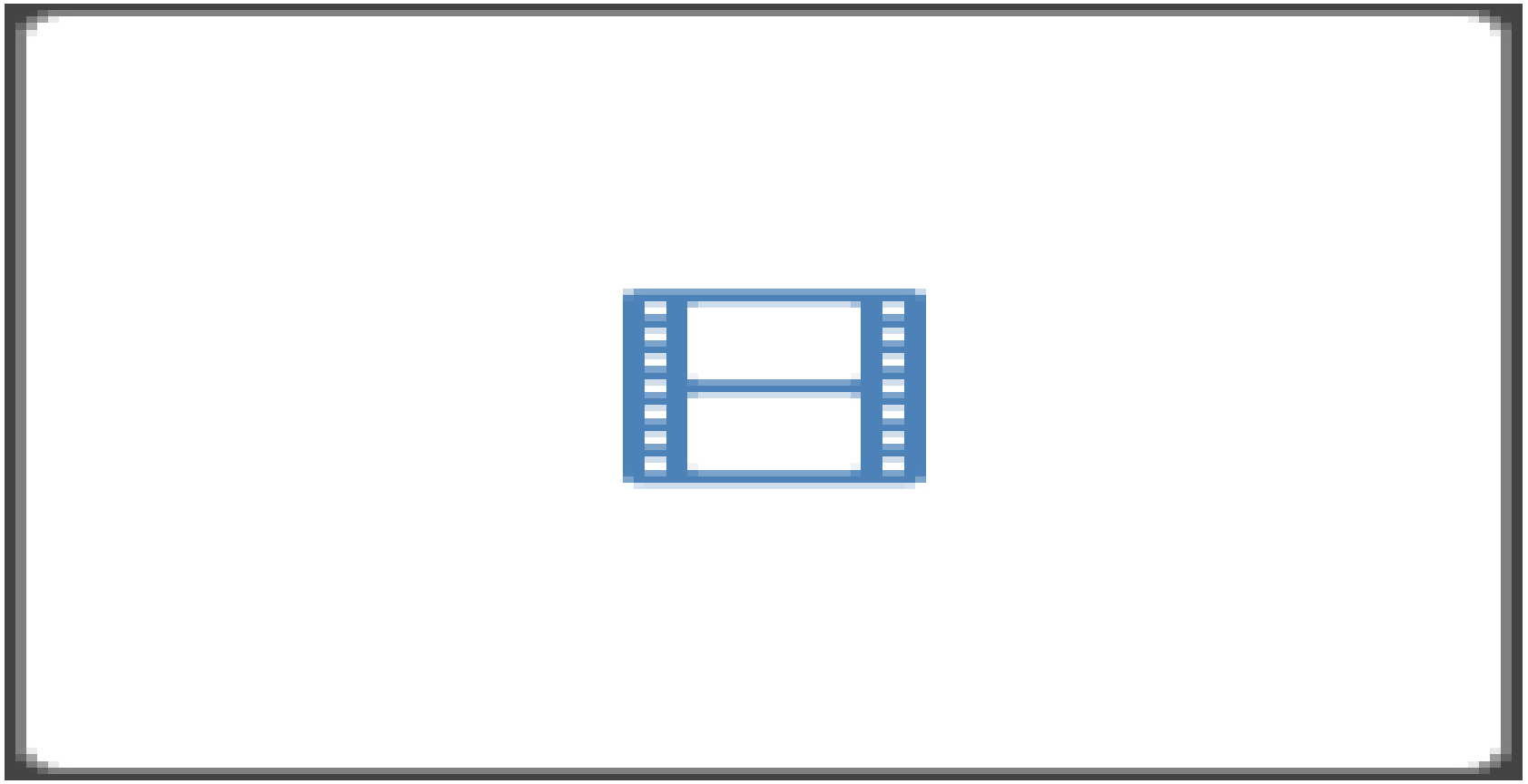
Video 1



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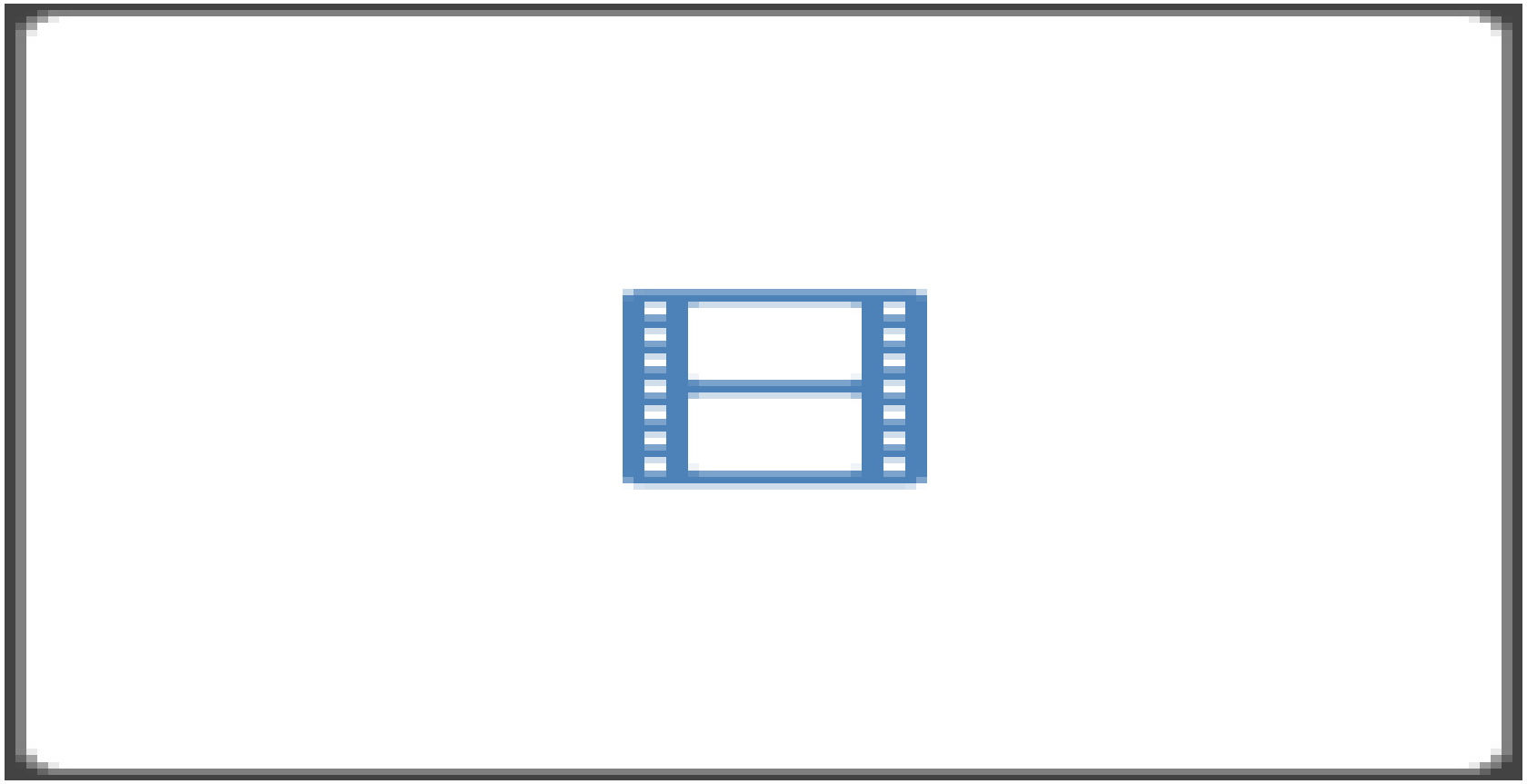
Video 2



Clenched Fists as an Unusual Presentation of Focal Neuromyotonia

- The current case illustrates an unusual but treatable presentation of the rare focal form of neuromyotonia,1, 2 and should be differentiated from other conditions with similar presentations such as myotonic dystrophy and other non-dystrophic myotonias, ulnar neuropathies and Dupuytren's contracture.
- Needle EMG of the forearm flexors demonstrated bursts of spontaneous high-frequency waning discharges typical of neuromyotonia that confirmed the diagnosis.
- As with the current case, patients previously reported with this condition tend to be older females with a history of COPD managed by inhaled beta-2-sympathomimetics.
- Whilst the pathomechanisms remain elusive, enhanced axonal hyperexcitability secondary to COPD-induced hypoxemia as well as hyperpolarization from sympathomimetics, through their effects on voltage-gated Na+/K+ pumps may result in ectopic firing in high frequency bursts.1,2