Grip myotonia
Yasutaka Yanagita, Kiyoshi Shikino, Masatomi Ikusaka

DESCRIPTION
A 39-year-old woman presented with a 2-year history of distal lower limbs muscle weakness and bilateral finger stiffness without pain. She reported of inability to stand on her toes and relax the fingers after squeezing her hands. The symptom improved with repeated movements. The patient did not have a family history of any dystrophic myotonic syndrome. On neurological examination, the relaxation of fingers was delayed after griping (grip myotonia, figures 1 and 2, and video 1) and bilateral gastrocnemius muscle weakness. Laboratory test revealed elevated creatine kinase (435 U/L) and aldolase (11.8 U/L). MRI of the lower limbs showed bilateral gastrocnemius muscles atrophy (figure 3). The electromyogram revealed complex repetitive discharges and myotonic discharge. Dystrophia myotonica protein kinase gene testing showed a cytosine-thymine-guanine (CTG) repeat expansion of 200 (normal value <35), and myotonic dystrophy type 1 (DM1) was diagnosed.

DM1 is an adult-onset muscular dystrophy that is an autosomal dominant myopathic CTG triplet disorder. Delayed grip release after handshaking or screwing on the cap is often a helpful clue to diagnose the disease. Repeated use of the muscle can reduce the stiffness. This is known as ‘warm-up’ phenomenon. The former sign is only seen in the early stage of DM1 and disappears as the disease progresses to develop muscle atrophy.

Learning points
► Myotonic dystrophy type 1 presents slowly progressive face, neck and distal muscle weakness.
► Grip myotonia is a characteristic sign even in the early stages of myotonic dystrophy type 1.

Correction notice This article has been corrected since it was first published online. The author Yasutaka Yanagita was incorrectly listed as Yasutaka Yahagita.

Twitter Kiyoshi Shikino @K

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Figure 1 Grip myotonia. Squeezing with both of the hands for several seconds.

Figure 2 Grip myotonia. Suddenly releasing the grasp, and several seconds passing before full achieved relaxation.
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ORCID IDs
Yasutaka Yanagita http://orcid.org/0000-0002-9213-8247
Kiyoshi Shikino http://orcid.org/0000-0002-3721-3443

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Correction: Grip myotonia


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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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