Movements Here Today, Gone Tomorrow: Images in Clinical Neurology Case of Hyperglycemic Hemichorea

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Keywords

chorea, movement disorders, clinical specialty, imaging, techniques

An 85-year-old man with history of left frontal encephalomalacia and non-insulin-dependent type-2 diabetes (hemoglobin A1c 8.5%) presented with right arm pain for 2 weeks followed by right arm and leg continuous, involuntary, writhing movements for 1 day (Supplemental Video). The glucose level was 223 mg/dL. Anion gap, electroencephalogram, and infectious workup were normal. Brain magnetic resonance imaging (MRI) with contrast demonstrated normal-appearing basal ganglia. His movements gradually resolved with subcutaneous insulin, correlating with a subsequently decreased but still abnormal glucose level.

Hyperglycemic hemichorea-hemiballism has been reported with glucose levels similar to our case (230 mg/dL)¹ and higher glucose levels during a hyperosmolar hyperglycemia state (948 mg/dL).² In our case, the improvement in chorea in the setting of elevated serum glucose may be secondary to the direct neuroregulatory action of insulin in the brain rather than its effect on glucose. Previous case reports showed higher hemoglobin A1c (>12%). They also showed unilateral T1 and T2 MRI abnormalities in the caudate and putamen.^{1,2} The authors of 1 case showing restricted diffusion in the putamen on diffusion-weighted imaging postulated that acute dysfunction may be secondary to Wallerian degeneration in the internal white matter of the putamen.³ Our case is unusual in that MRI abnormalities were not seen. Although movements typically resolve within 1 week when treated with subcutaneous insulin, additional therapies can include haloperidol, risperidone, and tetrabenazine.⁴

Authors' Note

Timothy S. Chang and Chirag B. Patel contributed equally to this manuscript. The patient provided informed consent to be videotaped and for this report to be submitted.

Declaration of Conflicting Interests

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Supplemental Material

The online supplemental video is available at <http://journals.sagepub.com/doi/suppl/10.1177/1941874416671648>.

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