

Hemichorea-hemiballismus as an unusual presentation of diabetes mellitus – A case report

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Introduction: Hyperglycemia-induced hemichorea-hemiballismus syndrome (HHHS) is a rare, potentially severe but reversible cause of chorea. It usually develops in patients already known to be diabetic, but it can also rarely be the first presentation of diabetes [1].

Brain magnetic resonance imaging (MRI) often shows typical findings and is crucial in differentiating HHHS from vascular chorea.

Since treatment of the underlying metabolic alteration plus symptomatic therapy usually reverse symptoms, it is important to consider HHHS as a cause of acute-onset chorea.

Objective: To describe the clinical and neuroradiological findings in a patient with HHHS.

Methods: A patient with recent history of uncontrolled diabetes and acute onset of hemichorea underwent neurological examination, routine blood and urine analysis, and brain MRI.

Results: A 78-year-old woman was admitted to our hospital complaining of 6 days of choreic movements affecting her left upper and lower extremity. She had been diagnosed with type 2 diabetes two weeks before, but despite therapy she reported poor control of blood glucose values.

Blood tests showed blood glucose level of 357 mg/dL and serum osmolality of 301 mOsm/kg. Her venous pH was 7.39, and bicarbonate 29 mmol/L. Glycosylated hemoglobin (HbA1c) was 138 mmol/mol. Brain MRI revealed a high intensity signal on T1-weighted images in both lentiform nuclei, more evident on the right side.

Abnormal limb movements persisted even after normalization of the blood glucose levels, so symptomatic attempt with haloperidol was started.

At a 6-months-follow up visit after hospital discharge, movements were no more noticeable.

Conclusions: Nonketotic hyperglycemia is an unusual, potentially easily-treatable cause of chorea-ballismus. Early recognition is crucial in order to start a prompt management and prevent further complications. HHHS should always be suspected in new-onset chorea/hemichorea, even in patients with no history of diabetes. The prognosis is excellent in most of the cases.

References:

[1] Bhagwat NM, Joshi AS, Rao G, Varthakavi PK. Uncontrolled hyperglycaemia: a reversible cause of hemichorea-hemiballismus. *BMJ Case Rep.* 2013 Sep 6;2013:bcr2013010229. doi: 10.1136/bcr-2013-010229. PMID: 24014327; PMCID: PMC3794112.