Acquired Movement Disorder: A Case Report on Diabetic Striatopathy

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Introduction

- Diabetic striatopathy is a hyperglycemic condition that manifests as chorea/ballism with or without associated striatal hyperintensity on CT or T1 MRI imaging
- Chorea and ballism are irregular, involuntary, purposeless movements, with ballism having more proximal limb involvement
- These arise in diabetic striatopathy in part due to abnormalities in the basal ganglia (specifically globus pallidus, caudate, or putamen), accounting for the alteration in motor control experienced with chorea/ballism
- These changes are thought to be due to lipid-laden alveolar macrophage accumulation within the striatum, as a result of metabolic dysfunction and transient ischemia.

Setting

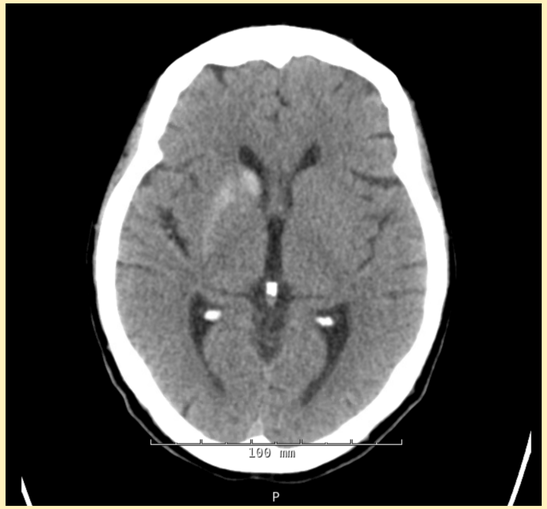
Academic, quaternary care university hospital.

Case Description

- 64 year old female with past medical history of T2DM (poorly controlled with Hgb A1C >14.7) who presented with 3 week history of involuntary left-sided movements on exam consistent with choreic movements
- Glucose of 325 on arrival, remainder of workup unremarkable

Hospital Course

- Subsequent CT brain revealed hyperintensities in the head of the right caudate nucleus and right putamen
- Consistent with non-ketotic hyperglycemic hemichorea(NHH)/Diabetic Striatopathy
- The patient's symptoms did not resolve with glycemic control, so started on Tetrabenazine 12.5 mg daily
- Patient subsequently discharged to acute rehabilitation for further treatment with plans to follow-up with Neurology.



CT heat showing ill-defined diffuse hyperdensity in the head right caudate nuclei and right putamen

Discussion

- Reported prevalence as low as 1 in 100,000
- Most patients with diabetic striatopathy have an average hemoglobin A1C of 13%, are negative for ketones in their urine or blood, and more commonly have type 2 than type 1 diabetes mellitus
- Reported in elderly Asian women, with fewer reports in children
- Mainstay of treatment is aggressive glycemic control, often leading to the resolution of symptoms at three month follow-up in 2/3 of cases
- Treatment for hemichorea in patients with non-ketotic hyperglycemia includes neuroleptics, dopamine depleting agents (uptitrated slowly), and GABAergic drugs
- Low dose tetrabenazine may be a reliable first-line short-term treatment option
- With a proper treatment regimen, it has been shown that patients can resume their ADLs without having hypoglycemic episodes
- Though choreiform movements due to non-ketotic hyperglycemic hemichorea secondary to diabetic striatopathy are rare, early detection, as well as symptom management, will play a large role in the outcomes and quality of life for these patients

Conclusion

- Diabetic striatopathy is characterized by choreiform-like movements in patients with uncontrolled blood glucose levels
- Persistence of hemichorea movements can have a profound effect on a patient's ADLs
- Early detection, aggressive glycemic control, and symptom management are crucial for good outcomes and improving the quality of life for these patients

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