Disclosures & Conflicts of Interest

None
The Patient

**ID:** 64 y/o from home alone

**PMHx:**

- T2DM (CABG x 4, L corona radiata CVA, L 4th toe amputation, retinopathy, nephropathy, neuropathy). Last A1C = 10.6 (7 years ago)
- Dyslipidemia
- CHF-HFpEF
- 20 p/y smoking hx

**Medications:** Stopped all Rx meds including insulin 1 year ago. Now using turmeric, apple cider vinegar, ginger.

**Functional Status:** Previously independent for all ADLs, iADLs
Presenting Concern

- Fell near Tim Hortons 2 days ago, no LOC, unclear why he fell
- Sudden onset of involuntary flinging movements of L arm and leg x 2 days
- Now also some uncontrolled tongue movements and mild slurred speech (noticed by sister)
- No mental status changes, headaches, facial droop, dysphagia, limb weakness, bowel/bladder dysfunction.
- Cardio/Resp/GI/GU/Derm/Constitutional/Exposure RoS negative
On Examination

- **Vitals:** BP 177/74, remainder of VS WNL
- **Mental Status/Cognition:** Normal
- **CV/Resp/Abdo/Derm:** Unremarkable
- **Neuro:** Very abnormal...
On Examination

(with consent)
DDx – Involuntary Movements

DDx – Involuntary Movements

• **Vascular:** Basal ganglia stroke

• **Drug or Toxin Induced:** Amphetamines, Stimulants, Antipsychotics (TDs)

• **Infectious:** Sydenham’s chorea (GAS), cerebral toxoplasmosis

• **Autoimmune:** SLE (APLA)

• **Endocrine/Metabolic:** Hyperglycemia, various electrolyte dx, chorea gravidarum

• **Neoplastic/Paraneoplastic:** SCC, anti-Hu/Ri/Yo

• **Neurodegenerative, Demyelinating:** Huntington’s Disease

Initial Investigations

MCV 76

112

6.7 261

133 91

4.2 20 122

17

Sosm 295
Troponin 0.006
Tox negative

7.34 / 30 / 17
Lactate 1.7
Ketones +++
Initial Investigations

CT Head:

“Multiple old lacunar infarcts.

Hyperdensity in the R corpus striatum may be due to underlying hemorrhage or calcium deposition.

Consideration of hyperglycemic hemichorea. Is the patient diabetic?”
Non-ketotic Hyperglycemic Hemiballismus-Hemichorea

- Also known as Chorea, Hyperglycemia, Basal Ganglia Syndrome (C-H-BG)
- **Epidemiology:**
  - Rare – largest review is of 53 cases
  - Described most often in older (~71 years), female (W30:M17), Asian patients
  - Mean BG: 26
  - Mean HbA1C: 14.4
- **Proposed Pathophysiology:** Poorly understood. ?Hyperviscosity/BBB disruption
- **Diagnosis:** MRI shows T1 hyperintensity in striatum, +/- T2 hypointensity
- **Treatment:** Correction of hyperglycemia
Workup & Management

- Insulin infusion until Anion Gap closed
- MRI confirmed T1-increased signal within R lentiform nucleus and caudate, T2-hyposignal in same area, SWI normal, no acute infarct.
- Symptoms resolved!
- Discharged home with Metformin, premixed Insulin
- Guess the A1C?
After

(with consent)
3 Learning Points
Thank you!

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References


