WHAT YOU DON’T EXPECT WHEN YOU’RE EXPECTING:

A GRAVID CONFUSION

Ted Giles Clinical Vignettes
Canadian Society of Internal Medicine

By Shara Nauth, MS4

with Peter Farag, Anthony Wan, Jessica Wilson, Drew Brotherston, Carson Lo, William Silverstein, Flora Shan, Dr. Eshan Fernando, Dr. Claudio Di Prizito and Dr. Pearl Behl | University of Toronto | October 28th, 2016
OBJECTIVES

1. **Describe** the effects of electrolyte abnormalities on cellular dysfunction.

2. **Recognize** the complications of *hyperemesis gravidarum* in pregnancy.

3. **Examine** the role of multidisciplinary management for a deteriorating patient.
"acute confusion & unusual gait"
- 24-year-old woman: G5P1A3, 19 weeks pregnant
- hyperemesis gravidarum with IV fluids in community

HR 138 BP 145/98
dry, flat JVP
disoriented to place & time
3+ weakness, hyporeflexive, normal sensation

WBC 15.7 Na 144 K 2.7

Your first step?
Ultrasound reveals intrauterine death.

She is admitted for IOL, IV thiamine + MgSO4.

Next AM: urgent call to Medicine!
THE STORY

DAY 1

- slow to respond to questions
- disoriented to place and time
- can’t sit up or resist force with legs
- no focal deficits, parasthesias, dysphagia

O/E: 3+ weakness, absent LE deep tendon reflexes

WBC 20 Na 149 K 3.1
U/A WBCs + trace bacteria
THE STORY

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* disoriented to place and time
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“hyperemesis gravidarum and UTI
  \[\downarrow\]
  dehydration + confusion
  \[\downarrow\]
  start on IV ceftriaxone”
THE STORY

DAY 2 - 6
THE STORY

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ID: “no infectious component —> ?pseudo-seizure

psych consult suggested”
THE STORY

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Patient can no longer sit, stand or recognize family members; has numbness in LE and ↑L plantar. IM consults Neurology.
THE STORY

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Patient can no longer sit, stand or recognize family members; has numbness in LE and ↑ L plantar. IM consults Neurology.
↓
Neurology: “ongoing delirium + bilateral symmetric distal myopathy”
THE STORY

DAY 6

- new numbness & tingling in hands
- reflexes: ↓ UE, absent LE
- L foot drop

WBC 12.9  Na 146  K 3.7

EEG: diffuse nonepileptiform disturbance

MRI: subtle restricted diffusion involving the cerebellar vermis and an increased T2/FLAIR signal within the central pons
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... demyelination?
THE STORY

Why

THIS PRESENTATION

in THIS PATIENT

at THIS TIME?
CEREBRAL PONTINE MYELINOLYSIS

- severe damage to the myelin sheath of pontine axons
- 2 theories: osmotic injury and axonal separation
- rapid correction of electrolytes
- well known in **hyponatremia**
- case reports:
  - anorexia nervosa
  - burn victims
  - dialysis patients
  - chronic alcoholism
  - and **hyperemesis gravidarum**

**MRI:** increased T2/FLAIR signal within the pons
HYPEREMESIS GRAVIDARUM

- severe, intractable nausea & vomiting
- complications: malnutrition, electrolyte imbalances

What makes it so hard to manage?

- volume depletion
- measurement limitations
HG + HYPOKALEMIA = CPM

K 2.7 —> 3.1 —> 3.7

Resolution of MRI Findings in Central Pontine Myelinosis Associated With Hypokalemia

SHOMEET V. PATEL, MD; DAVID C. PARISH, MD, MPH; RAJENDRA KUMAR M. PATEL, MD; EDWIN W. GRIMSLEY, MD

ABSTRACT: We report a case of a 20-year-old African-American female, hospitalized and treated for hyperemesis gravidarum and hypokalemia with a normal serum sodium level. Two to 3 days into her hospitalization, urinary incontinence and increased strength. Our case describes CPM occurring secondary to hypokalemia, with resolution of characteristic MRI findings at follow-up. Sole hypokalemia-induced CPM is very rare.

Numerous case reports characterize normonatremic, hypokalemic women with hyperemesis gravidarum and CPM.

Why?
With rehab and physio, our patient is now walking again. She was D/Ced in stable condition with Neurology follow-up.

repeat MRI —> resolution of findings?