



5/31/23 Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Bettina Tenorio (@salfopsi) Case Discussants: Sharmin Shekarchian (@Sharminzi)

CC: muscle stiffness

HPI: 41 y/o male with intermittent muscle stiffness (lasting for 1 hour) of 4 limbs that started 1 day ago and made him go to the ED as the stiffness is intolerable and awakening him from sleep.

ROS

Weight loss +ive

Tremors

Palpitations

3 bowel motions/query loose

stools/diarrhoea

Otherwise ROS is unremarkable

PMH:

HTN

Meds:

Losartan

HCTZ

Fam Hx:

HTN

hyperthyroidism

Soc Hx:

Smoker (7 pack years)

Alcohol

Loves eating rice

Health-Related

Behaviors: Denied

Allergies: Denied

Vitals: T:normal 37 HR:99 BP: 130/80 RR: 20 SpO2 99%

Exam:

Gen: conscious , alert, oriented

HEENT: unremarkable

CV, pulm: unremarkable

Abd: unremarkable

Neuro: 0/5 power all limbs, reflexes +2 normal. Sensation intact

Extremities/skin: well perfused, no rashes/lesions

Notable Labs & Imaging:

Hematology:

WBC: 9.5, Hgb: 14.5 (lymph 16%), Plt: 233

Chemistry:

Na: 142 K: 1.8 Cr: 0.7

Urinalysis negative

CK 42

ABG: pH 7.35, PCO2 41.7, Bicarb 23, BUN 14

TSH < 0.01, FT4: 12, FT3: 3.14

Imaging:

EKG: 2nd degree AV block

Dx: Hypokalemic paralysis induced by hyperthyroidism/Grave's (Thyrotoxic periodic paralysis)

Problem Representation:

41 y/o male with intermittent muscle stiffness of all limbs for 1 day with weight loss and diarrhoea, with hypokalemia and low TSH. Dx: Hypokalemic paralysis induced by hyperthyroidism/Grave's (Thyrotoxic periodic paralysis)

Teaching Points (Hui Ting):

Muscle stiffness: electrolyte abnormalities (potassium)?, toxins mediated? Is it neurological or muscle? Any additional features such as fever o any sign of possible causes of infection. Adequate physical exam of the muscle stiffness is warranted (fasciculations, tremor)

→ **Hypokalemic thyrotoxic periodic paralysis: thyrotoxicosis, hypokalemia, acute painless muscle weakness.**

Hyperthyroidism → high adrenergic state

→ **HCTZ: hypercalcemia and hypokalemia**

Neuromuscular junction: ALS, MS, Myasthenia gravis

Hypokalemia: 1. GI symptoms (vomiting, diarrhea), 2. Meds (diuretics, insulin, albuterol), 3. hypomagnesemia.

pH low: acidemia → RTA 1, 2

pH normal: channelopathy (periodic paralysis)

pH high: alkalosis → Bartter and Gitelman syndrome, Inappropriate aldosterone

<https://clinicalproblemsolving.com/wp-content/uploads/2017/05/Hypokalemia-pH-V2.pdf>

Weight loss: increase demand such as hyperthyroidism, cancer.

Management to this case is to treat hyperthyroidism → Fluid, K, PTU