04/23/21 Morning Report with @CPSolvers

Case Presenter: *James Plumb* ***Case Discussants***: *Prof Rez(@DxRxEdu) and Rabih Geha(@rabihmgeha)*

CC: Abdominal pain and SOB

HPI: 31M with 2 day history of nausea/vomiting, abdominal pain and SOB

Diffuse abdominal pain, increased in lower abdomen, both flanks. SOB, fatigue, weakness and constipation.

PMH: Asthma well controlled. 3 ED admissions for abd pain, better with hot showers.

Meds: Ibuprofen once a week

Fam Hx: Mom with diabetes.

Soc Hx: No tobacco use, marihuana smoker daily. Alcohol 1 pack/week.

Health-Related Behaviors:

Vitals: **T**: 36.6C **HR**:65 **BP**:147/88 **RR**:18 **SpO_2**:100% on room air

Exam:

Gen: Acute distress, diaphoretic. Vomitus non bilious/bloody

HEENT, CV, Pulm, skin: Nl

Abd: Not tender on palpation, normal sounds.

Neuro: No numbness, tingling, weakness.

Notable Labs & Imaging:

Hematology:

WBC: Nl Hgb: 16.8 Plt: Nl

Chemistry:

Na:136 K:3.8 Cl:104 CO2: 21 BUN:10 Cr:.8
glucose: 126 Ca: 10.9 (corrected) Mg: 2.0
Phosphate: .6 Cl/P ratio: >35
AST: Nl ALT: Nl Alk-P: T. Bili: Albumin: 4.9
Lipase: 11
Supplement with Phosphate, and new labs results were PTH: 107 VitD 25: 18.3 24h urine Ca: 421.8

Imaging:

CT: Parathyroid adenoma left thyroid gland, underwent surgery after Vit D supplement and PTH values improved.

Final Dx: Primary hyperparathyroidism

Problem Representation: Young adult presents with acute abdominal pain which improves with showers and is associated with nausea/vomit and SOB. Labs showed hypercalcemia, hypophosphatemia with elevated PTH. Images were positive for parathyroid adenoma.

Teaching Points (Rafa):

- **NAUSEA AND VOMITING -** mark of severity
  Most cases don't point towards a dx: focus on the other symptoms
- **DYSPNEA**
  Dyspnea (95%) - heart / lungs
  Heart - myocardium, pericardium, endocardium, rhythm
  Lungs - alveoli / parenchyma / vasculature
  Less common causes - anemia, acidosis, anxiety, hyperthyroidism, neuromuscular weakness (ALS - dyspnea exacerbated when lying flat like patients w/ HF)
- **ABDOMINAL PAIN**
  Think about obstruction (small bowel obstruction), perforation (Boerhaave syndrome), ischemia (strangulated hernia), inflammation (appendicitis)
  Pearl: rectal exam for everyone and pelvic exam for women are always indicated
  Marijuana - cannabinoid hyperemesis syndrome
  Alcohol - pancreatitis, alcohol-related hepatitis, esophageal tear
- **CONSTIPATION -** concerning in a young patient
  Diet, hypercalcemia , opioids, ALS, IBS, hypothyroidism, endometriosis
- **DEHYDRATION -** higher albumin, hemoglobin, Ca - hydrate and check again
- **VOMITING -** hypochloremic hypokalemic metabolic alkalosis
- **LOW PO4 -** neurological and cardiorespiratory risk - ATP depletion
  Kidney (PTH, type 2 RTA) / GI loss (low vitamin D, PO4 binders, celiac disease)? Transcellular shift (insulin/beta agonist)?
  Cl / PO4 > 35 - think about PTH!
- **PTH**
  Primary (parathyroid adenoma/hyperplasia, lithium) / secondary(compensatory to low Ca/ vitamin D) / tertiary (advanced CKD)
  Rule out familial hypocalciuric hypercalcemia - check the urine Ca - higher than normal Ca required to suppress PTH