



4/26/26 Morning Report with @CPSolvers



“One life, so many dreams” Case Presenter: (@Adivi) Case Discussants: (@Kirtan) & (@Jeffery)
<https://clinicalproblemsolving.com/present-a-case/>

Scribing (Evan)
CC: 76 yo F presents with several day history of **paresthesias, fatigue, cramps and difficulty concentrating**
HPI: Says numbness is bilateral affecting her fingers and toes, cramps is intermittent occurring in the hands and feet and have been progressively worsening.
ROS: Denies seizure activity, dysphagia palpitations, vomiting, diarrhea. Denies recent illness.

PMH: Parkinsons, T2DM, Breast cancer (diagnosed 6 years ago, underwent lumpectomy and chemotherapy), osteoporosis, calcium stones.
Meds: Primidone, bupropion, ibandronate, denosumab (started 3 weeks ago), anastrozole
Fam Hx:
Social Hx: No smoker, rarely alcohol
Health-Related Behaviors:
Allergies:

Vitals: T: 97.8 HR:76 BP: 118/78 RR: 28 Sat: 98 BMI:
Exam: Gen: NAD
HEENT:
CV: RRR
Pulm:
Abd:
Neuro: bilateral strength intact, no loss of sensation bilaterally, CN intact, AOX4
Extremities/skin: No edema

Notable Labs & Imaging:
Hematology:
 WBC: 4.4 Hgb: 11.9 RBC: 4.34
Chemistry:
 Na: 145 K: 3.8 Cl: 111 HCO3: 21 Cr: 0.52 (baseline) BUN: 8
 Glucose: 120 Ca: 6.7 Mg: 1.6 AST: wnl ALT: wnl Bili: 0.5
 Albumin: 4.3 Total Protein: 6.6 ALP: 256
PTH: 1168 Vit D 1-25: 255 Phos: 2.4
 Urine CA: 154
Imaging:
 Last mammogram: mild post radiation changes but no ductal dilation or abnormalities
 CXR: wnl. No acute findings
 Echo:
Dx: Medication precipitated hypocalcemia 2/2 denosumab

Problem Representation: 76 yo F presented with acute paresthesias, fatigue, cramps after starting denosumab 3 weeks ago. Physical exam was benign and labs revealed low calcium, high ALP, high PTH. Hypocalcemia found to be secondary to denosumab.

Teaching Points (Gillian)
Paresthesias: First characterize what is meant
 - Numbness and tingling → neuropathy
Causes:
 - Affecting the nerves from the outside. More often acute. (lead, med review)
 - Something from the outside can lead to something from the inside → electrolyte abnormalities (hypocalcemia)
 - Affecting the nerves from the inside (e.g. diabetes). More often chronic.
Features
 - Where is it? Length-dependent neuropathy is most common. Nerve is most vulnerable distally.
 - Is it only sensory or also motor? Examination alone is not sufficient
 - Temporality
 - Cramping sensation → muscle problem
Hypocalcemia:
 - True hypocalcemia (check the albumin)
 - Is it symptomatic?
 - Why is it low?
 - Cannot get it out of bones
 - Going inside the cells and the bones
 - Pancreatitis
 - Hungry bone syndrome (remove parathyroid)
 - Medication (denosumab, bisphosphonate) lock calcium in bone
 - Cannot lose in urine and GI tract enough to cause hypocalcemia
Alkaline Phosphatase: liver and bones. Can confirm w/ isoenzyme type. High with rapid turnover of bone trying to restore blood levels.
 - Hormones telling bone we need more calcium (PTH, PTHrp)
 - Primary (adenoma, carcinoma) vs secondary hyperparathyroidism (vitamin D deficiency, magnesium) vs tertiary (CKD).
 - Primary and tertiary would expect high or high normal calcium
 - Direct bone turnover from bony metastases → PTH should not be elevated
Denosumab: binds RANKL, prevent binding to osteoclast, preventing bone breakdown.