Episodes 7 & 8

This week, the CPSers introduce a schema for hypercalcemia in Episode 7 and then apply it to an fascinating unknown case from guest Dr. Bob Centor in Episode 8.

Problem Representation - episode 8
Dr. Centor presented the case of a 50-year-old man with a history of Crohn’s disease treated with a total colectomy who presented with subacute increased ileal output, tachycardia, and hypercalcemia.

Schemas
The CPSers’ schema for hypercalcemia classifies the causes into PTH and non-PTH mediated etiologies.

Diagnosis - episode 8
They eventually cracked the case when thyroid studies confirmed a diagnosis of hyperthyroidism - a rare cause of hypercalcemia!

Teaching points

- The combination of constipation and polyuria is much more specific for hypercalcemia than classically described symptoms (bones, stones, groans, and psychiatric overtones).
- A chloride/phosphate ratio (>33) suggests a PTH or PTHrP-mediated cause of hypercalcemia.
- 1,25-OH Vitamin D is the biologically active form of Vitamin D and can lead to hypercalcemia, but don't forget to look at its precursor, 25-OH Vitamin D.
  - If both are elevated, this suggests excessive Vitamin D intake.
  - If just 1,25-OH Vitamin D is elevated, then search for an underlying granulomatous process.

Clinical Reasoning Pearl

In certain scenarios, a "normal" value may be abnormal.

For example
In patients with hypercalcemia, the parathyroid gland should completely suppress PTH production.

If the PTH returns in the normal range, the problem must lie with the parathyroid gland.