The Thyroid Cancer Masquerade

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• Category: Thyroid
• Attending: Angelos
72yo woman w hx of kidney stones and osteopenia was found to have an elevated Ca on routine labs. Elevated PTH with significant PMH confirmed diagnosis of hyperparathyroidism.

**PMH**
- Kidney stones  x3 s/p lithotripsy
- Ostopenia
- Hypertension
- migraines

**Medications**
- Amitryptyline
- Cardizem
- Synthroid
Labs:
Ca 10.6 (8.4-10.2 mg/dL)
PTH 98 (15-75 pg/mL)

Imaging:
Sestamibi: persistent focus noted inferior to the right thyroid lobe, consistent with a parathyroid adenoma

Ultrasound:
R lobe: midpole nodule measuring 1.2cm spongiform, suggestive of colloid
L lobe: left midpole nodule measuring 2.0cm solid and heterogenous with a hypoechoic rim, scattered calcifications and internal vascularity
Parathyroids: ovoid hypoechoic nodule measuring 0.8cm posterior to the right inferior pole and an additional hypoechoic nodule posterior to the left inferior pole 0.7cm
**PREOP**

**FNA**
R side 1.2cm nodule: colloid nodule
L side 2.0cm nodule: degenerating squamous cells and acute inflammation: findings may represent inflamed squamous lined cyst

**Anesthesia**
No concerns

**Plan**
Parathyroidectomy, diagnostic left thyroid lobectomy for possible epidermal inclusion cyst
• Abnormal dissection plane laterally along left thyroid gland thought to be an exophytic thyroid nodule
• Esophageal lumen entered during dissection of this mass, which was discovered to be an esophageal diverticulum
• b/l superior parathyroidectomy with appropriate ioPTH drop
• ENT:
  – laryngoscopy: opening to diverticulum seen distal to cricopharyngeous
  – Dissected out remaining diverticulum until the edges were clean
  – 2cm defect closed with interrupted imbricating 3-0 vicryl
• 7mm flat JP & NGT
**Pathology**

Esophageal diverticulum; excision:
- Esophageal diverticulum with marked inflammation and ulceration.

Left superior parathyroid; parathyroidectomy:
- Thyroid and parathyroid tissue.

Right superior parathyroid; parathyroidectomy:
- Enlarged hypercellular parathyroid gland, (370 mg).
1. Findings related to previous surgeries:
   - Suture granuloma, clips, traumatic neuroma

2. Findings not related to previous surgery
   - reactive lymph node
   - parathyroid adenoma
   - Schwannoma
   - esophageal diverticulum
   - cervical thymus
   - silicone lymphadenopathy (foreign body reaction from silicone used in breast and joint prostheses released in to LN)
   - sarcoidosis
**Esophageal Diverticulum**

Our patient

Kobaly et al pt.
Esophageal Diverticulum

- Anterolateral or posterior protrusion of pharyngeal mucosa through muscle at the pharyngoesophageal junction.
- The most commonly detected diverticula are behind the posterior left lobe.
- If a diverticulum fills with air during the examination, gas admixed with fluid may cause echogenic foci that could be interpreted as calcifications.
- With swallowing, these echogenic areas move as air shifts.
  - Recommend: ultrasound in the longitudinal plane to attempt visualization of the communication with the esophagus (may be better seen with water ingestion during exam)
- Barium swallow study can confirm the diagnosis.

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Suture Granuloma

• What is it?
  – Inflammatory lesions in response to non-absorbable suture (silk)

• What does it look like on ultrasound?
  – Irregular, heterogeneous soft tissue lesion with central echogenic foci due to suture material. Usually multiple, may be paired. Avascular.
FINDINGS RELATED TO PREVIOUS SURGERY

Traumatic Neuroma

• What is it?
  – Postsurgical proliferation of injured nerves

• What does it look like on ultrasound?
  – Compared to metastatic LN, looks fusiform and ill-defined, central hypoechoic area. Avascular. May see nerve in continuity. Pain w FNA.
FINDINGS RELATED TO PREVIOUS SURGERY

Surgical Clip

• What is it?
  – Metal clip used to mark tissue or facilitate hemostasis

• What does it look like on ultrasound?
  – Bright linear appearance that can mimic calcifications. May have reverberation artifact behind the clip.
FINDINGS NOT RELATED TO PREVIOUS SURGERY

Reactive Lymph Node

• What is it?
  – Develop secondary to benign proliferation of LN tissue in response to local or remote inflammation. Often in Level II.

• What does it look like on ultrasound?
  – Enlarged w increased vascularity, but often maintain oval shape and smooth homogenous cortex w fatty hilum. (Metastatic nodes are round, hypoechoic, lack echogenic hilum, have irregular cortical thickening.)
Schwannoma

• What is it?
  – Benign encapsulated nerve sheath tumor.

• What does it look like on ultrasound?
  – Spindle-shaped hypoechoic lesions with smooth border and internal chaotic vascularity that may resemble malignancy. Pain with FNA
Silicone Lymphadenopathy

- **What is it?**
  - Silicone used in breast and joint prostheses can be released into surrounding tissues and sequestered in LN, causing a foreign body rxn

- **What does it look like on ultrasound?**
  - Characteristic “snowstorm appearance”: hyperechoic w limited sound penetration, avascularity, and distal acoustic shadowing. If from breast implant, will also be in ipsilateral supraclavicular and axillary nodes.