

Adenoma Apoplexy: Not Just for the Pituitary Gland

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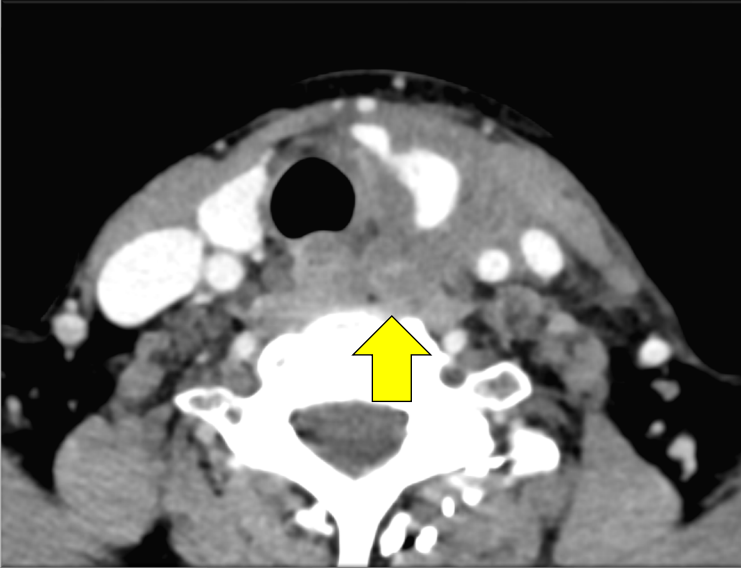
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Disclosures

None of the authors nor their immediate family members have a financial relationship with a commercial organization that may have direct or indirect interest in the content.

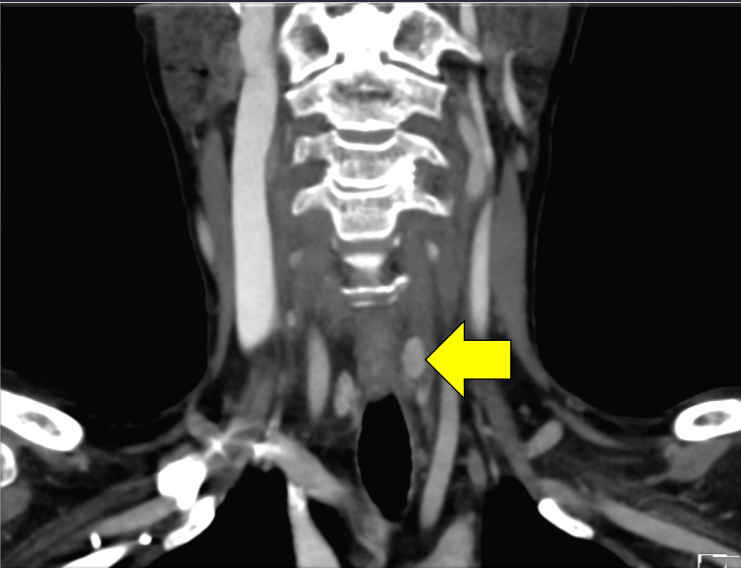
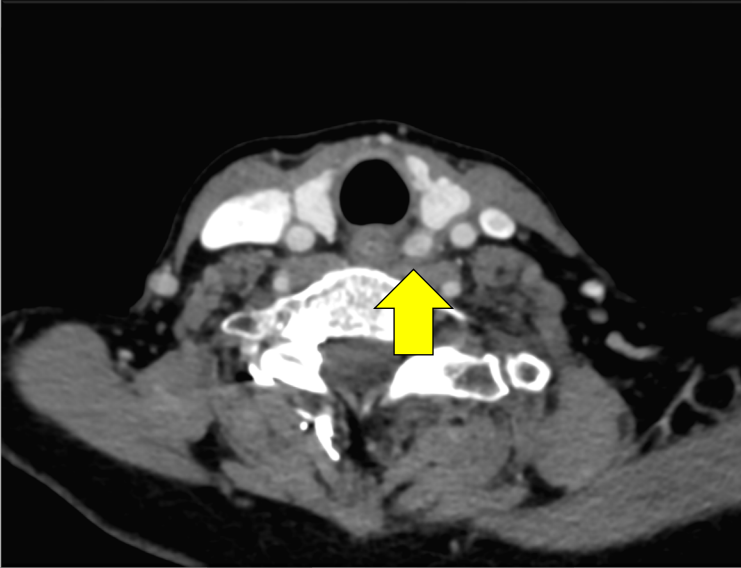
Clinical Presentation

- ◇ 67-year-old female presented to OSH with sudden-onset left-sided neck pain, swelling, soreness, and bruising
- ◇ No history of trauma
- ◇ Reported waxing-and-waning pressure and pain in her neck that expanded down towards her chest
- ◇ Reported pain upon swallowing or deep breathing
- ◇ Large kidney stones noted on chest radiograph



Initial Imaging (CT STN)

- ❖ Ill-defined soft tissue density and stranding in the left neck posterior to the thyroid, extending superiorly into the parapharyngeal space and inferiorly into the mediastinum
- ❖ Focal rounded heterogeneous **lesion** posterior to the left thyroid lobe, obscured by surrounding soft tissue stranding

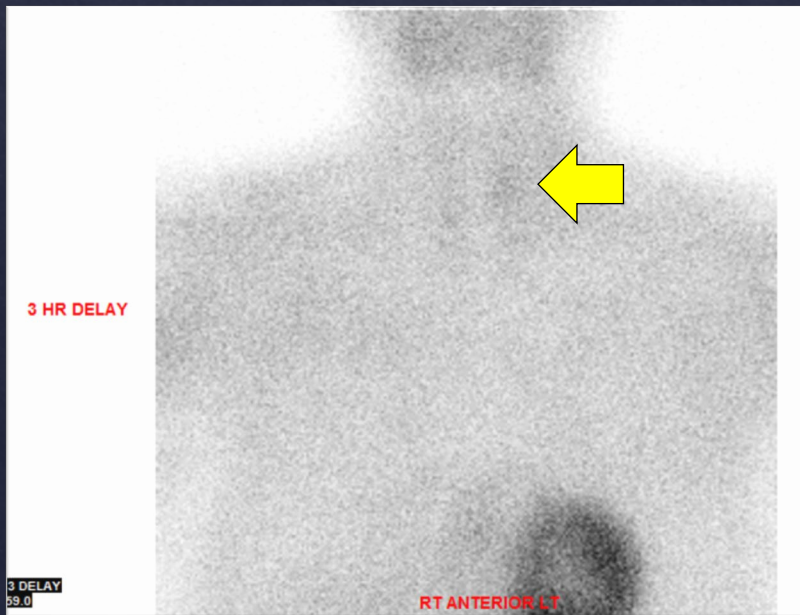


Follow-Up Imaging (CT STN)

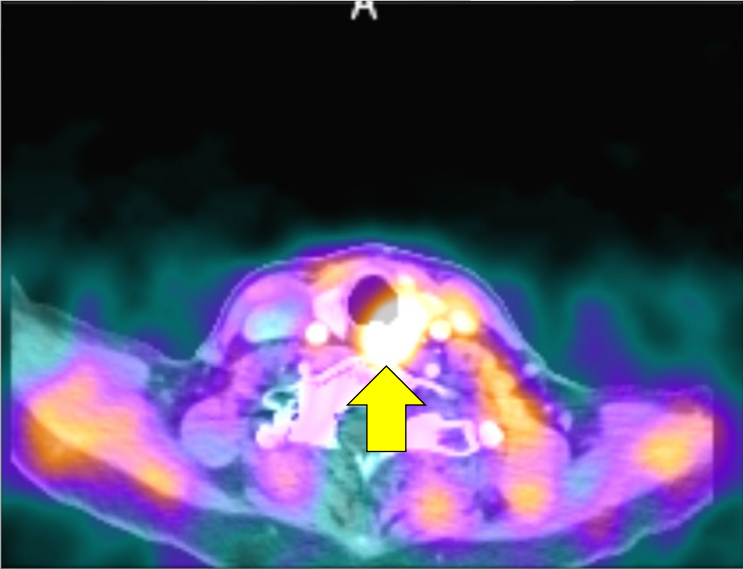
- ◇ Resolution of the extensive inflammatory stranding/hematoma in the left lower cervical soft tissues and upper mediastinum
- ◇ Resolved mass effect from left thyroid lobe
- ◇ Suspect that previous imaging may have represented extensive hematoma
- ◇ 1.4 cm well-circumscribed **mass** posterior to the left thyroid lobe which enhances similar to the arterial vasculature (was larger and heterogeneously lower in density on prior exam)
- ◇ Ddx: parathyroid adenoma that spontaneously hemorrhaged or pseudoaneurysm

Follow-Up Imaging (NM Parathyroid Sestamibi)

- ◇ Early increased uptake along the left side of the thyroid and **retained activity in the left upper neck** with washout from the thyroid gland



Follow-Up Imaging (NM Parathyroid Sestamibi)



- ◇ Fused SPECT images demonstrated retained activity in the delayed phase corresponding with the enhancing lesion just posterior to the left thyroid lobe
- ◇ Findings were consistent with hyperfunctioning left superior parathyroid adenoma

Management

- ◇ Patient was treated with antibiotics during admission and ENT was consulted
- ◇ She was sent home with follow-up imaging and appointments scheduled with ENT
- ◇ Imaging features from her follow-up scans were consistent with parathyroid adenoma, despite having normal calcium (9.5 mg/dL) and upper-limits-of-normal PTH (59.5 pg/mL) levels
- ◇ In addition to kidney stones noticed on chest CT during her ED admission, DEXA scan showed osteoporosis in the left femoral neck
- ◇ She had a parathyroidectomy
- ◇ Pathology was consistent with parathyroid adenoma of the left superior parathyroid gland, concordant with imaging findings of its location posterior to the tracheoesophageal groove

Outcome

- ◇ On two-month follow-up visit after surgery, serum PTH declined to 47.8 pg/mL and serum calcium remained normal at 9.6 mg/dL
- ◇ She denied dysphagia, voice changes, or shortness of breath
- ◇ She was recommended to establish care with a PCP to manage osteoporosis discovered during her pre-op evaluation

Take Home Points

- ◆ Parathyroid adenomas can hemorrhage and undergo apoplexy from infarction, similar to other tumors
- ◆ PTH and calcium levels can vary and may not be markedly elevated in parathyroid adenomas
- ◆ Have a high index of suspicion for parathyroid apoplexy in a patient with spontaneous nontraumatic neck hematoma, especially when asymmetric and occurring posterior to the thyroid gland.