

AMSER Case of the Month

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Cervical Radiculopathy with Incidental Thyroid Finding

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Patient Presentation

- **History of Present Illness:** 84 year-old female presented to ED with significant LUE pain and neck pain. She denied any traumatic event and said pain started less than 24 hours prior.
- **Past Medical History:** Chronic low back pain, lumbar stenosis, rheumatoid arthritis, hypothyroidism
- **Past Surgical History:** Lumbar laminectomy, Spinal cord stimulator implant

What Imaging Should We Order?

ACR Appropriateness Criteria

Variant 2: New or increasing nontraumatic cervical radiculopathy. No “red flags.” Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
MRI cervical spine without IV contrast	Usually Appropriate	0
CT cervical spine without IV contrast	May Be Appropriate	⊕⊕⊕
Radiography cervical spine	May Be Appropriate (Disagreement)	⊕⊕
MRI cervical spine without and with IV contrast	Usually Not Appropriate	0
X-ray myelography cervical spine	Usually Not Appropriate	⊕⊕⊕
CT myelography cervical spine	Usually Not Appropriate	⊕⊕⊕⊕
CT cervical spine with IV contrast	Usually Not Appropriate	⊕⊕⊕
CT cervical spine without and with IV contrast	Usually Not Appropriate	⊕⊕⊕
CTA neck with IV contrast	Usually Not Appropriate	⊕⊕⊕
Discography cervical spine	Usually Not Appropriate	⊕⊕
Facet injection/medial branch block cervical spine	Usually Not Appropriate	⊕⊕
MRA neck with IV contrast	Usually Not Appropriate	0
MRA neck without IV contrast	Usually Not Appropriate	0
MRI cervical spine with IV contrast	Usually Not Appropriate	0
Bone scan whole body with SPECT or SPECT/CT neck	Usually Not Appropriate	⊕⊕⊕⊕

This imaging modality was ordered by the ER physician

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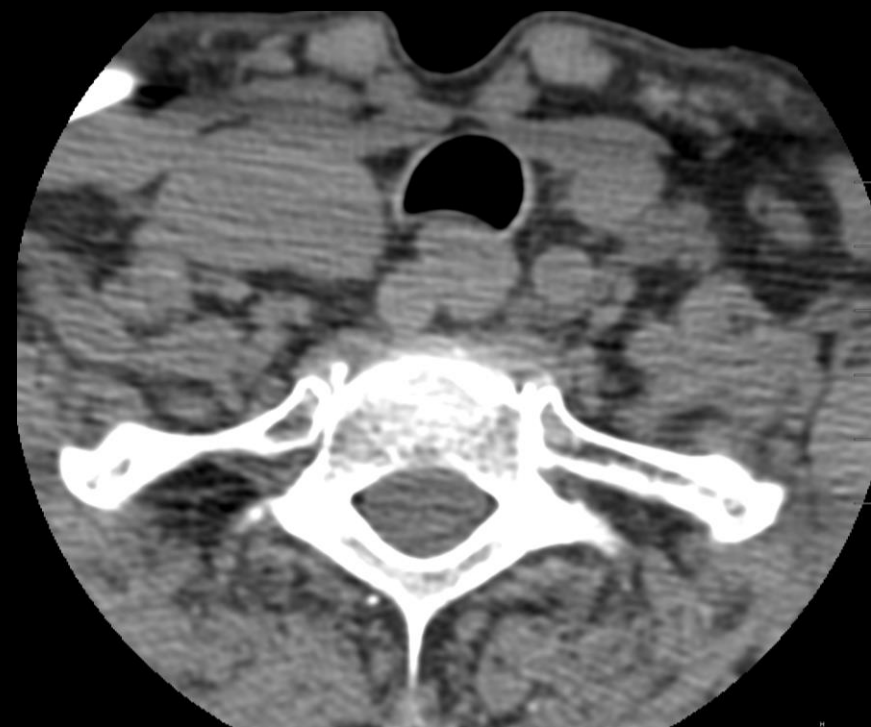
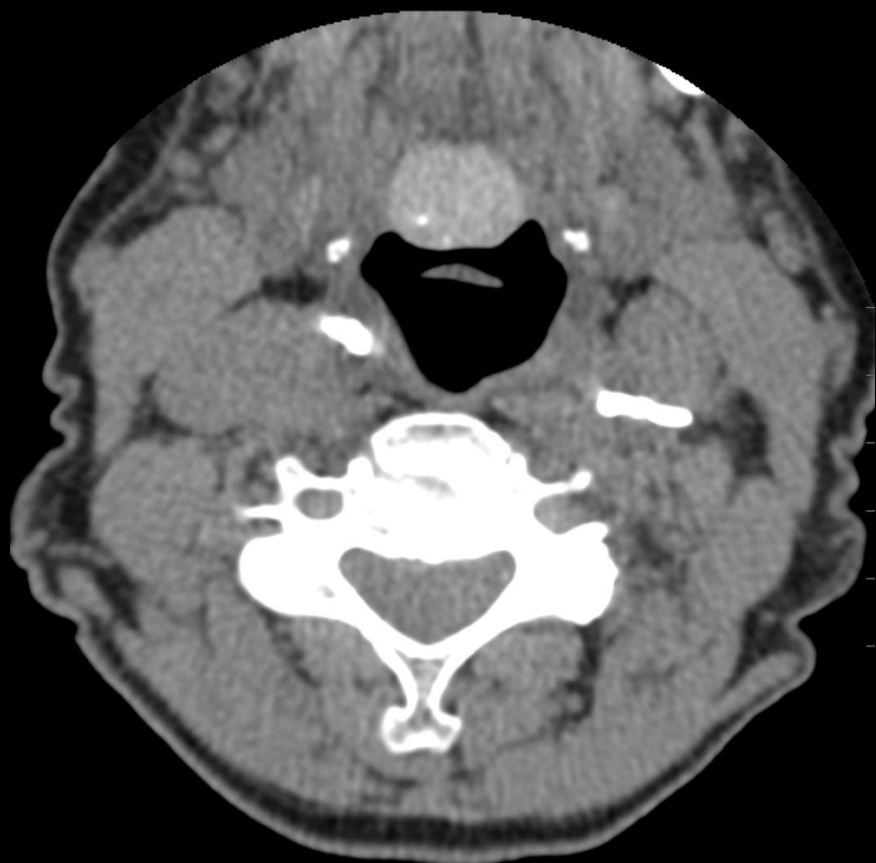


Findings

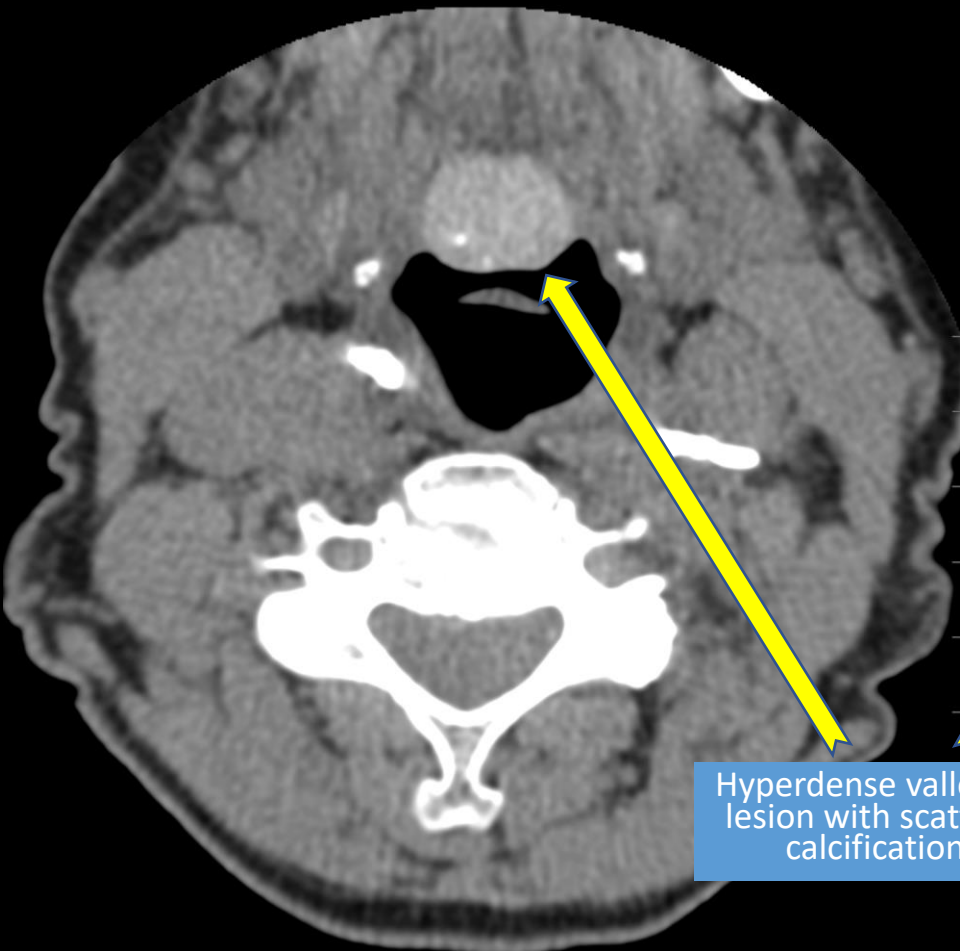


Impression: No CT evidence of acute fracture or traumatic malalignment.

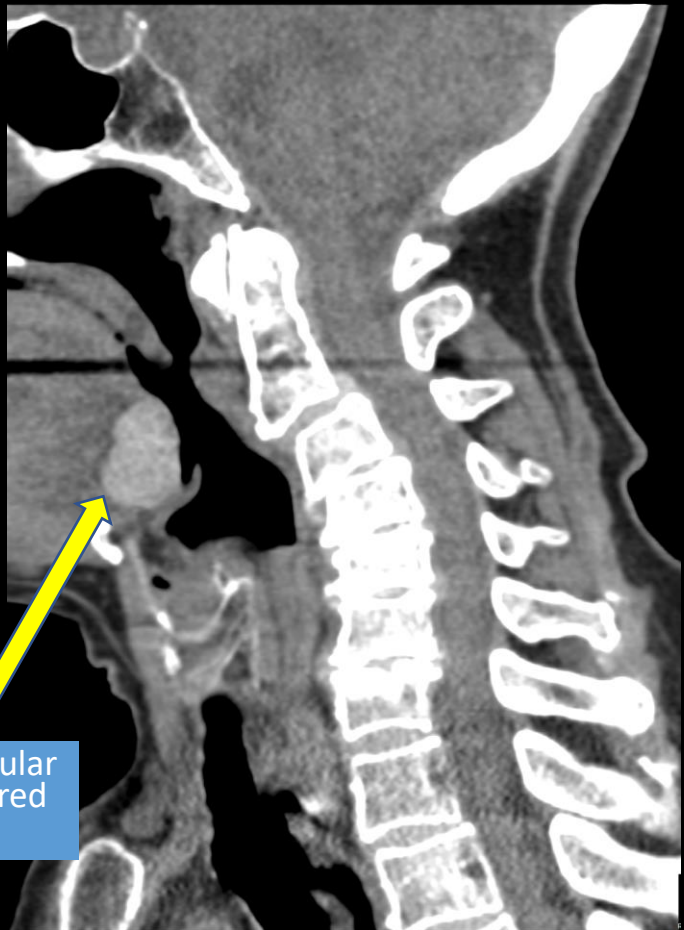
Incidental Finding



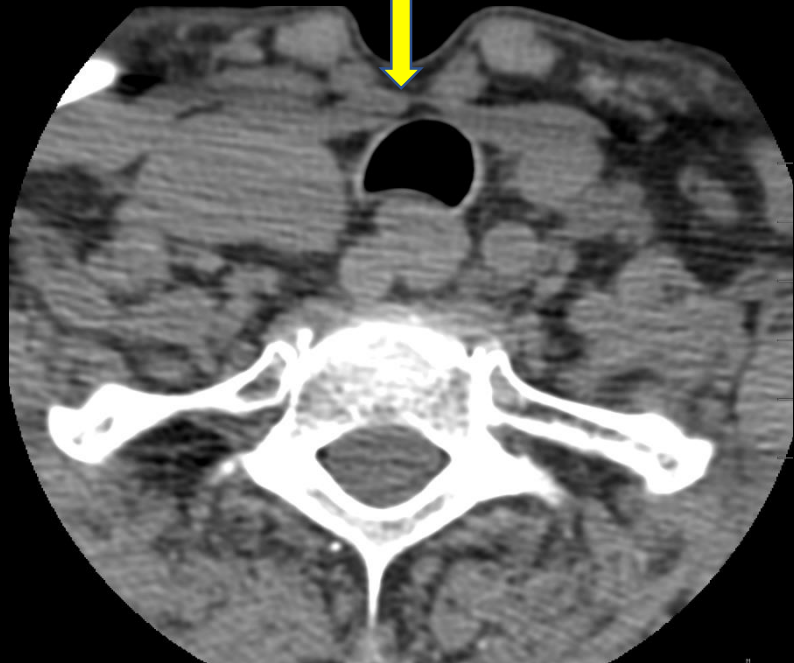
Incidental Finding



Hyperdense vallecular lesion with scattered calcifications



No appreciable thyroid tissue in the normal anatomical location

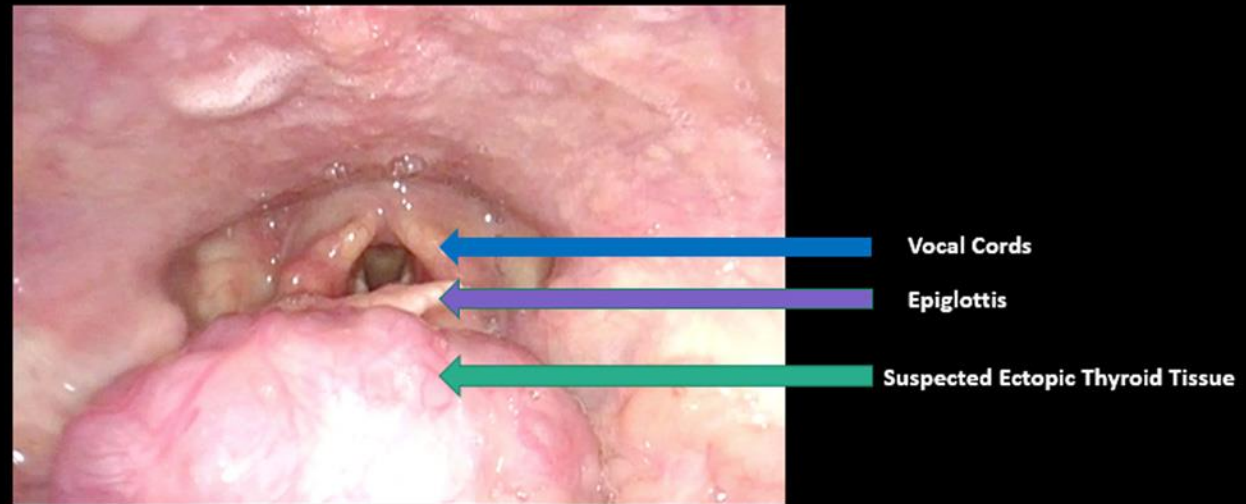


Final Dx:

Lingual Thyroid Gland

Case Discussion

- Lingual thyroid is the most common form of ectopic thyroid tissue, occurring in 1 per 100,000-300,000 cases, with a female predominance.
- It is believed to be caused by mutations in NKX2-1, FOXE1, and PAX-8 genes, which regulate thyroid morphogenesis and migration during embryo development.
- During development, the thyroid gland descends from the foramen cecum to the thyroid cartilage.
- Lingual thyroid is characterized by ectopic thyroid tissue in the base of the tongue. This tissue can obstruct airways and cause dysphagia; however, it can also be asymptomatic.
- Patients may present with hypo- or hyperthyroidism.



Cruz-Dardíz N et al. 2020

Diagnosis and Treatment

- CT of the neck with contrast is the preferred imaging modality.
- Ultrasonography of the neck can be used to show absence of thyroid tissue at the thyroid cartilage.
- After identifying lingual thyroid tissue, it is important to look for other sites of thyroid tissue that are making thyroid hormones. Radionuclide imaging with technetium 99m pertechnetate, iodine 123, or iodine 131 are useful for this.
- TSH and thyroid hormones should be measured before any intervention.
- Usual treatment involves resection and treatment for hypothyroidism.

References:

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5. Kumar R, Gupta R, Bal CS, Khullar S, Malhotra A, 2000 Thyrotoxicosis in a patient with submandibular thyroid. *Thyroid* 10: 363-365.
6. Zander DA, Smoker WR. Imaging of ectopic thyroid tissue and thyroglossal duct cysts. *Radiographics*. 2014 Jan-Feb;34(1):37-50. doi: 10.1148/rg.341135055. PMID: 24428281.