

## Interesting Case of an Ectopic Parathyroid Adenoma

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Joint AAES and AACE --

Interesting Case Session

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EMORY

Department of Otolaryngology  
Head and Neck Surgery

## Disclosure

- We have no conflicting financial interests related to the subject matter of this presentation.

## Interesting Case

69 year old female presented to PCP for routine assessment and examination.

Past Medical Hx: HTN, HLD, Depression

Past Surgical Hx: Tonsillectomy, Tubal Ligation, Left knee surgery

Allergies: Lisinopril

Medications: Statin, HCTZ

Family Hx: Mother -- Lung Cancer

Social Hx: Retired. Social EtOH, Denies Tobacco or Recreational Drugs

Physical Exam: WNL

Labs: Calcium – 10.5 mg/dL, PTH – 88 pg/mL

Imaging: DEXA – osteoporosis

Plan -- Referral to Endocrinologist

## Endocrinology Referral

- Calcium – 10.5 mg/dL, PTH – 88 pg/mL
- Urine Calcium negative
- Diagnosed with Primary Hyperparathyroidism
- Sestamibi Scan Performed – “No findings of ectopic parathyroid adenoma or parathyroid adenoma in neck”
- Referral to Endocrine Surgeon

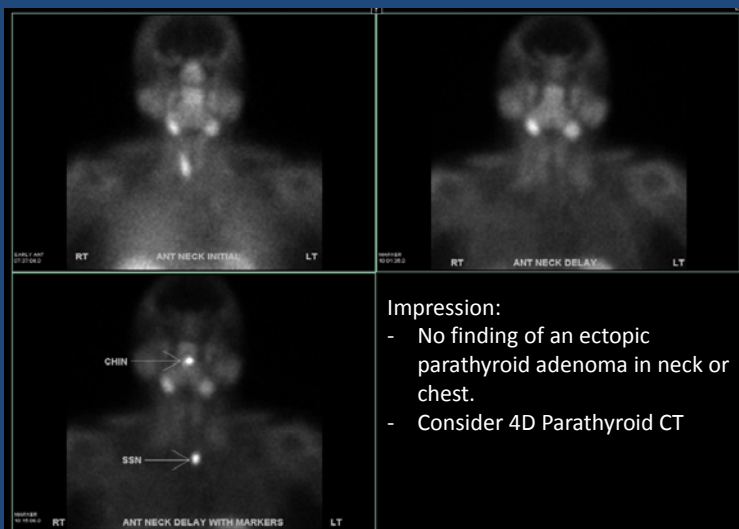
## Endocrine Surgeon

- 4 Gland Exploration performed
  - Only 3 of 4 glands located
  - Left Superior not found and all biopsies negative.
- Post-op
  - Continued to have hypercalcemia and hyperparathyroidism
  - Post-op Sestamibi Scan was negative
  - In office ultrasound, demonstrated a hypoechoic lesion along the lateral aspect of the mid to upper left thyroid lobe

## Endocrine Surgeon

- Re-Exploration and left hemithyroidectomy performed
  - No parathyroid identified on re-exploration
  - Pathology negative for intrathyroid parathyroid, but incidental micro-papillary thyroid carcinoma identified
- Continued Hyperparathyroidism
- Repeat Sestamibi scan performed

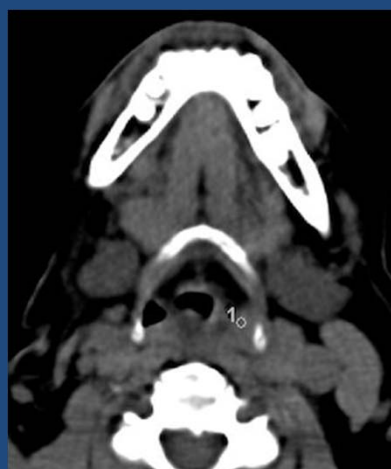
## Sestamibi Scan



### Impression:

- No finding of an ectopic parathyroid adenoma in neck or chest.
- Consider 4D Parathyroid CT

## 4DCT



Pre-Contrast



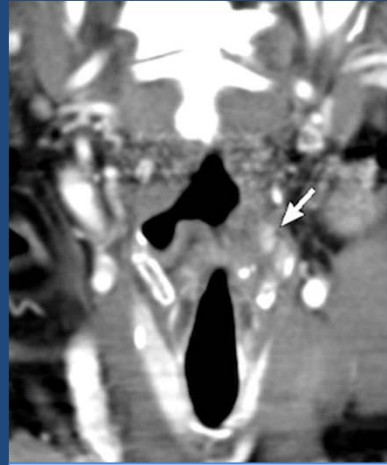
30 sec Post-Contrast

Special thanks to Ajay Joshi, MD of Dekalb Medical Center for Images

# 4DCT



60 sec Post-Contrast



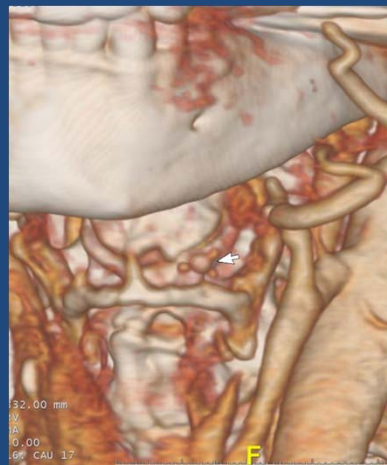
60 sec Post-Contrast

Special thanks to Ajay Joshi, MD of Dekalb Medical Center for Images

# 4DCT



90 sec Post-Contrast



90 sec Post-Contrast

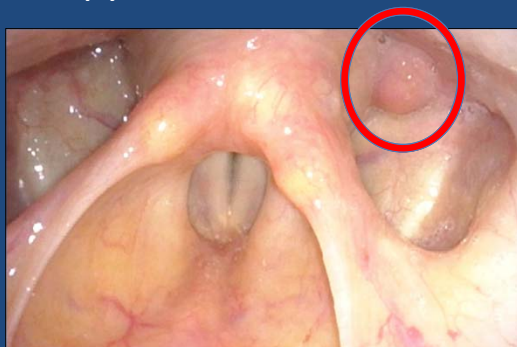
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## 4DCT

- 4D-CT localized a left-sided suspicious lesion
- Referral to Emory Otolaryngology - Head and Neck Surgery for further management

## Emory Head and Neck Surgery

- Full assessment performed including repeat labs, review of recent imaging, flexible laryngoscopy



## Emory Head and Neck Surgery

- Transoral resection of a left pyriform sinus mass was performed
- Final Path demonstrated “hypercellular parathyroid tissue”
- Pre-op Labs: Calcium 10.7 mg/dL, PTH 90 pg/mL
- Post Op Labs: Calcium 9.2 mg/dL, PTH 28 pg/mL



## 2 weeks Post-Op



# Discussion

## Key Teaching Points

- Approximately 16% of parathyroids are ectopic<sup>1</sup>
- Classically, inferior parathyroid glands are more commonly ectopic given embryologic association with the thymus
- While rare, the pyriform sinus can be a potential site for ectopic parathyroid adenomas (5 case reports in PubMed).
- Flexible laryngoscopy can be useful in the pre-operative evaluation for thyroid and parathyroid surgery.

1) Phitayakorn, Roy et al. Incidence and location of ectopic abnormal parathyroid glands. The American Journal of Surgery, Volume 191, Issue 3, 418 - 423



Thank you



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