AMSER Rad Path Case of the Month:

76 year old female with left parotid mass

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Patient Presentation

- HPI: 76-year-old female presents with a painless left parotid mass first felt a month ago. Complains of occasional “prickling” of the left cheek. Denies facial weakness or twitching.
- PMHx: Atrial fibrillation, Hypertension, Hypercholesteremia
- PSHx: nonsmoker, nondrinker
- Medications: famotidine, amiodarone, amlodipine, atenolol, losartan, apixaban
- SHx: Cardiac electrophysiology and ablation in 2019, hysterectomy in her 30’s
- Physical Exam: ~1.5 cm nontender, mobile, firm, ovoid mass in left parotid gland
- Vital Signs: within normal limits

Pertinent Labs

- WBC: 4.5
- Hemoglobin: 13.4
- INR: 1.1
- Platelets: 217,000

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

Variant 3: **Parotid region mass(es). Initial imaging.**

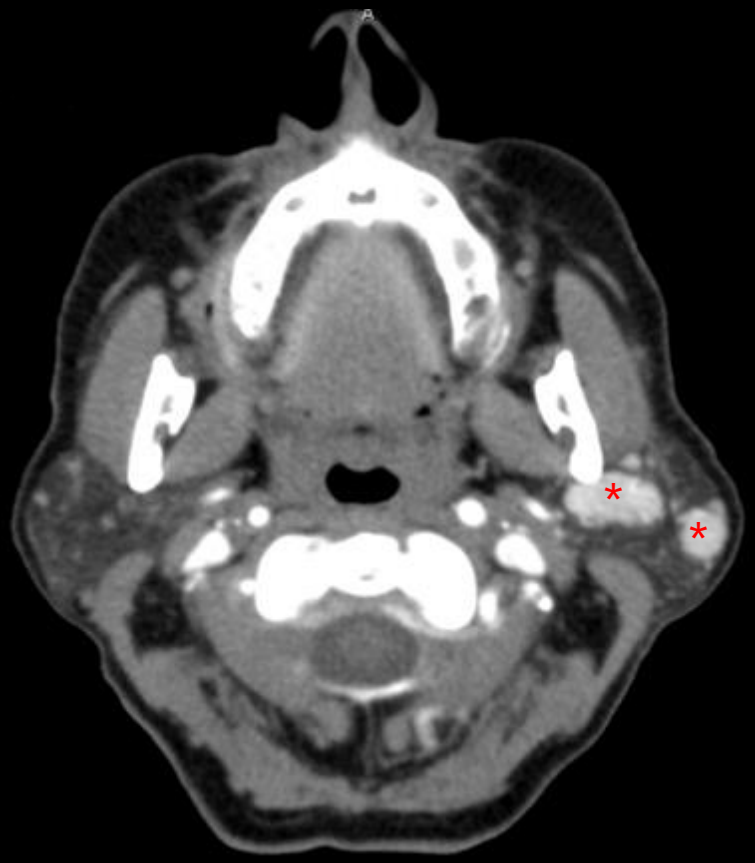
Procedure	Appropriateness Category	Relative Radiation Level
CT neck with IV contrast	Usually Appropriate	☢☢☢
MRI neck without and with IV contrast	Usually Appropriate	O
US neck	Usually Appropriate	O
MRI neck with parotid sialography without and with IV contrast	May Be Appropriate	O
MRI neck with parotid sialography without IV contrast	May Be Appropriate	O
MRI neck without IV contrast	May Be Appropriate	O
CT neck without IV contrast	May Be Appropriate	☢☢☢
Fluoroscopy sialography parotid	May Be Appropriate (Disagreement)	Varies
CT neck with parotid sialography	Usually Not Appropriate	☢☢☢
CT neck without and with IV contrast	Usually Not Appropriate	☢☢☢

This imaging modality was ordered by the PCP

Ultrasound was later performed to guide biopsy

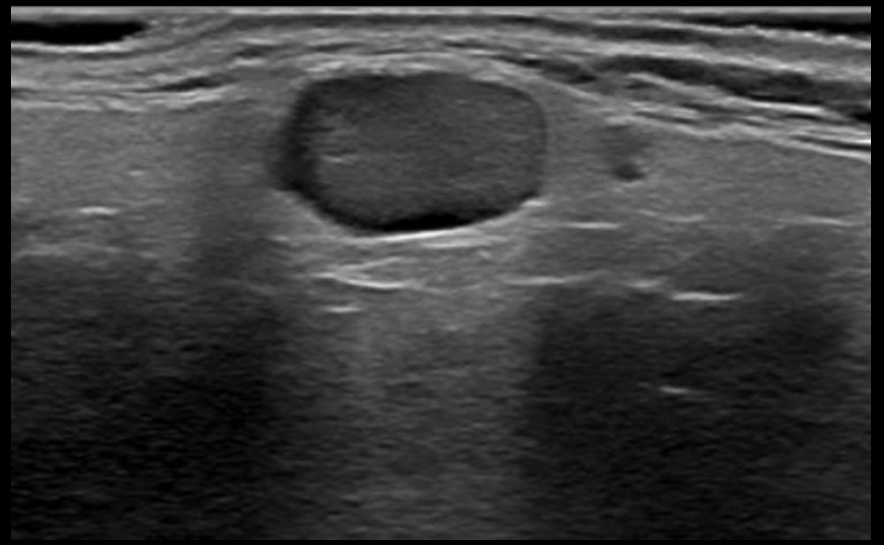
CT Neck with contrast

CT Neck with contrast



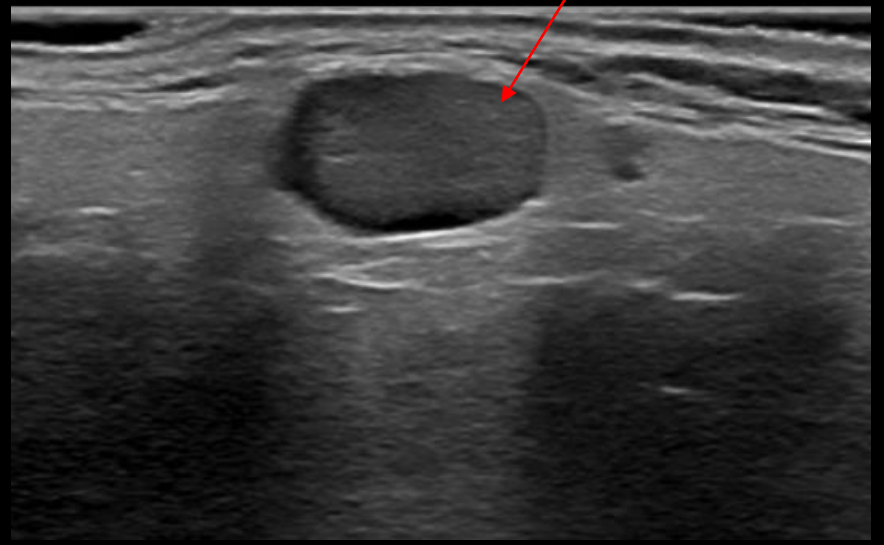
Multiple enhancing foci within left parotid gland(*)

Ultrasound



Ultrasound

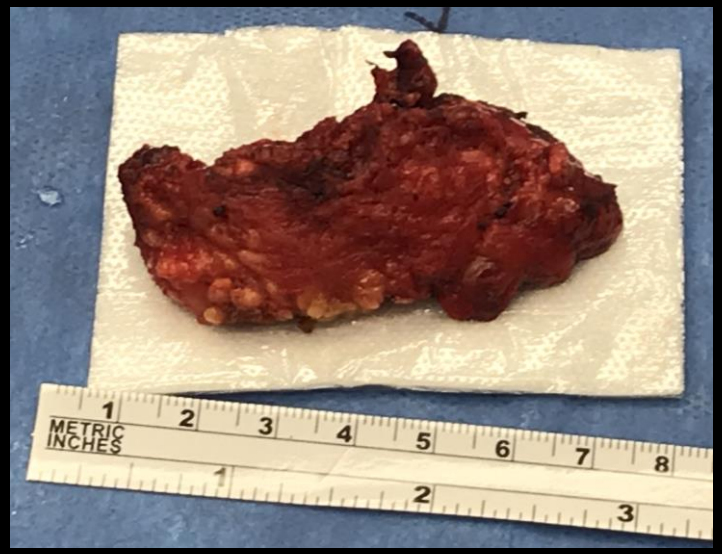
Well-circumscribed homogeneous hypoechoic mass, with surrounding anechoic rim



DDX (based on imaging)

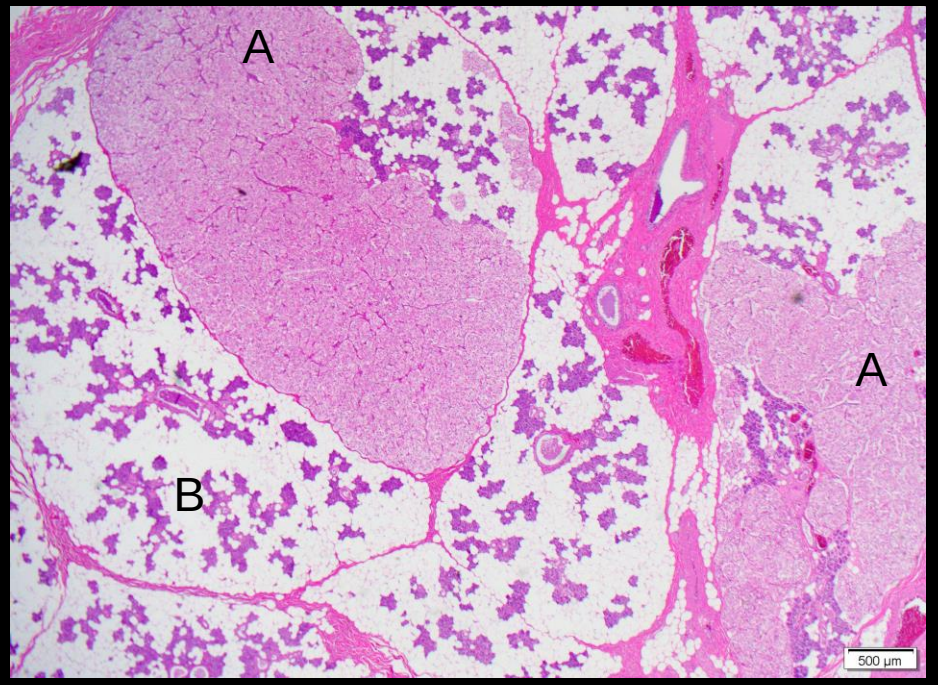
- Pleomorphic Adenoma
- Warthin's Tumor
- Mucoepidermoid Carcinoma
- Metastases
- Lymphoma

Gross Path:

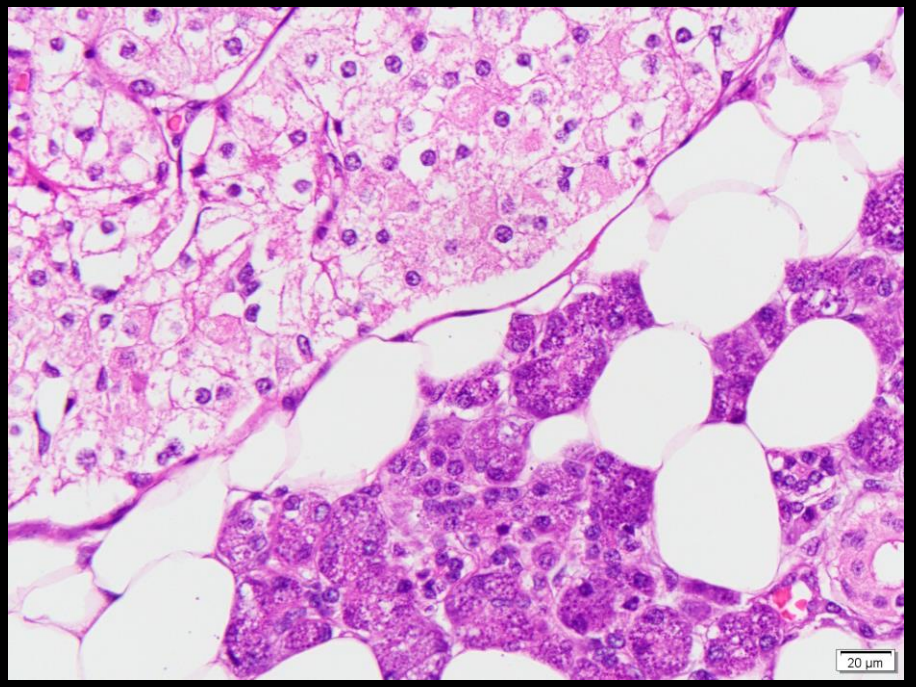


Nodular left parotid gland measuring 6.1 x 3.2 x 2.2 cm

Micro Path



Nodules of oncocytic hyperplasia (A) in a background of normal parotid acinar tissue (B).
(Hematoxylin-eosin stain, 20x magnification)



Characteristic oncocytic cells with round nuclei and abundant granular eosinophilic cytoplasm (top left). Normal parotid acinar cells with adipose tissue (bottom right).
(Hematoxylin-eosin stain, 400x magnification)

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Final Dx:

Oncocytosis (multifocal adenomatous oncocytic hyperplasia)

Oncocytosis

- Oncocytosis consists of non-encapsulated nodules of oncocytic cells
- Distinct from oncocytoma, which is a singular encapsulated benign neoplasm of oncocytes. Both are considered benign.
- Rare: oncocytic neoplasms represent 1% of parotid gland tumors
- Mainly diagnosed in women in the sixth decade
- Recurrence is low after resection

Common Parotid Gland Tumors

- Pleomorphic adenoma
  - Most common benign salivary gland neoplasm
  - Well circumscribed multilobulated mass with high T2 signal
  - Tends to recur unless total parotidectomy is performed
- Warthin's Tumor
  - Second most common benign salivary gland neoplasm
  - Often contain hypercellular microcysts. Up to 20% are bilateral/multifocal
  - Strong association with smoking
- Mucoepidermoid Carcinoma
  - Most common malignant salivary gland neoplasm
  - Due to mucin content, often have a cystic component on imaging
  - Higher histopathologic grade predicts worse prognosis

References

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