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

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT neck with IV contrast</td>
<td>Usually Appropriate</td>
<td>★★★★</td>
</tr>
<tr>
<td>MRI neck without and with IV contrast</td>
<td>Usually Appropriate</td>
<td>★</td>
</tr>
<tr>
<td>US neck</td>
<td>Usually Appropriate</td>
<td>★</td>
</tr>
<tr>
<td>MRI neck with parotid sialography without and with IV contrast</td>
<td>May Be Appropriate</td>
<td>★</td>
</tr>
<tr>
<td>MRI neck with parotid sialography without IV contrast</td>
<td>May Be Appropriate</td>
<td>★</td>
</tr>
<tr>
<td>MRI neck without IV contrast</td>
<td>May Be Appropriate</td>
<td>★</td>
</tr>
<tr>
<td>CT neck without IV contrast</td>
<td>May Be Appropriate</td>
<td>★★★★</td>
</tr>
<tr>
<td>Fluoroscopy sialography parotid</td>
<td>May Be Appropriate (Disagreement)</td>
<td>Varies</td>
</tr>
<tr>
<td>CT neck with parotid sialography</td>
<td>Usually Not Appropriate</td>
<td>★★★★</td>
</tr>
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<td>CT neck without and with IV contrast</td>
<td>Usually Not Appropriate</td>
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</table>

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
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)
Final Dx:

Oncocytosis (multifocal adenomatous oncocytic hyperplasia)
Oncocytosis

- Oncocytosis consists of non-encapsulated nodules of oncocytes.
- 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


