AMSER Rad Path
Case of the Month:

62 year old male presents with right-sided facial mass

Daniel Morgan, OMS III
Lake Erie College of Osteopathic Medicine
Dr. Matthew Hartman, M.D.
Medical Student Coordinator; Diagnostic Radiology, AHN
Dr. Charles Li, M.D.
Neuroradiology, AHN
Dr. Kossivi Dantey, M.D.
Department of Pathology, AHN
Dr. Michael Gottlieb, M.D.
Otolaryngology (ENT), AHN
Patient Presentation

**HPI:** 62 year old man presents with a one year history of a right-sided facial mass that fluctuates in size. He denies facial weakness/numbness, trismus, or otalgia. He has not experienced any clenching, chewing difficulty, difficulty swallowing/talking. He states the mass does not change in size with eating. He has had regular dental exams (normal x-rays) with no evidence of teeth grinding.

**PMHx:** HTN, HLD, osteoarthritis, psoriasis, Varicella

**Surgical Hx:** adenoidectomy, knee cartilage replacement

**Family Hx:** multiple sclerosis (father), lung cancer (mother), diabetes (brother)

**Social Hx:** Denies current or past smoking/chewing tobacco use. Denies alcohol and illicit drug use.

**Medications:** atorvastatin, lisinopril-HCTZ, Otezla

- Physical exam reveals a unilateral, 2 x 3 cm, firm, slightly mobile right parotid mass; the rest of the exam is unremarkable.

- Ultrasound and CT w/ contrast are ordered...
Ultrasound Head/Neck

Thyroid L18-5 44Hz RS

2D 62%
Dyn R 65 P Low Res

Dist 3.41 cm
Dist 2.14 cm

Right NECK

Thyroid L18-5 6Hz

2D 76%
Dyn R 62 P Low Res
CE 57%
1364Hz WF 122Hz 7.0MHz

Right NECK
• 3.4 x 2.1 cm heterogeneous mass occupying lesion with discrete margins. There is no convincing posterior acoustic enhancement or shadowing.

• There is no evidence of internal vascularity on color Doppler.
CT Head/Neck with Contrast

- 3.2 x 3.0 x 2.8 cm mildly enhancing mass centered on the junction of the superficial and deep right parotid lobes.
- The margins of the mass are discrete with smooth borders. There is no evidence of a contralateral (left sided) parotid mass. There are no abnormal lymph nodes in the neck.
Differential Diagnosis Based on Imaging

Pleomorphic Adenoma (benign mixed tumor)
Warthin Tumor (papillary cystadenoma lymphomatosum)
Mucoepidermoid Carcinoma
Metastasis
Lymphoma
Gross Specimen

- The patient underwent a right superficial parotidectomy w/ facial nerve dissection

- Serial sectioning reveals a hemorrhagic, lobulated, gray-yellow soft lesion that measures 3.5 x 3 x 2.5 cm
Histopathology (H&E)

- Well demarcated tumor separated from adjacent normal parotid tissue by an intact fibrous capsule
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Histopathology (H&E)

- The tumor is composed of well differentiated ductal epithelial cells
- Mildly increased N/C ratio with evenly dispersed chromatin
Histopathology (H&E)

- The tumor also contains myoepithelial cells and a characteristic chondromyxoid stroma
Final Dx:
Pleomorphic Adenoma
Case Discussion

- The most important distinguishing feature of a pleomorphic adenoma is its **BIPHASIC** nature (cellular polymorphism) -

**MYOEPITHELIAL CELLS** have contractile function, secrete *chondromyxoid stroma*

**DUCTAL CELLS**

(Image: UTMB)
Case Discussion

• Pleomorphic adenomas commonly present as a unilateral, small, painless, slowly growing, well demarcated, mobile facial mass in the fourth to sixth decade of life, but can also occur over a wide age range.

• They are the most common benign tumors of the parotid gland. However, these tumors must be completely excised because they have malignant potential (carcinoma ex pleomorphic adenoma), which can be difficult to treat.

• This tumor has a strong tendency to recur, especially if incompletely excised or ruptured intraoperatively.
  • A recurring tumor is a strong risk factor for future malignancy and metastasis.
    - Invasion of the fibrous capsule and facial nerve involvement are key features of malignant transformation
Treatment Options

• The mainstay of treatment is complete surgical excision.

• **Superficial parotidectomy** – most common type of parotid surgery; removal of the parotid gland superficial to the plane of the facial nerve.

• Total parotidectomy – removal of the entire parotid gland (both lobes). All branches of the facial nerve must be identified and carefully retracted to prevent post-surgical complications.

• Radical parotidectomy – total parotidectomy + facial nerve resection; may include removal of additional structures, such as the temporal bone.
Surgical Complications

• Bleeding/hematoma
• Infection
• Sialocele
• Numbness of skin on the neck, face, ear
• Frey’s Syndrome
  - “Gustatory sweating” – phenomenon that causes the sight or smell of food to cause sweating on the face.
• *Facial Nerve (CN VII) injury*
  - Courses directly through the parotid gland, artificially dividing it into a superficial and deep lobe; responsible for the motor innervation of the muscles of facial expression.
References


• Histopathology of Major Salivary Gland Neoplasms. The University of Texas Medical Branch (UTMB), Grand Rounds Presentation 2005. https://www.utmb.edu/otoref/grnds/Salv-gInd-histopath-051116/Salv-gInd-histopath-slides-051116.pdf