Parotid Tumors

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CASE PRESENTATION

- 50 YO F
- 3 x4 cm painless mass in region of left parotid gland
- Initial evaluation in 2008 (3 x2 cm) by Dr. Alfonso but surgery delayed by patient
- HX papillary thyroid ca 2009 s/p left lobectomy, HTN

PHYSICIAL EXAMINATION

- Normal vitals
- NAD
- 3x4 cm mobile tumor over left parotid gland
- No palpable regional adenopathy
- No evidence of facial nerve palsy
- Normal exam of contralateral face and neck
- Prior collar incision well healed no palpable thyroid masses
- No skin lesions on the head

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MANAGEMENT

- No further workup performed
- Patient was recommended for surgical extirpation

OPERATIVE FINDINGS

- 3x4 cm well encapsulated mass within the left parotid gland superficial to the facial nerve
- The 5 branches of the facial nerve were identified and preserved
- Left superficial parotidectomy performed

POSTOPERATIVE COURSE

- Procedure tolerated well
- Slight left lip droop appreciated
- Expected facial swelling
- Discharged on POD#2 after JP drain removed
- POD#8 office visit improved droop and swelling without complaints
- Pathology revealed pleomorphic adenoma with tumor free margins

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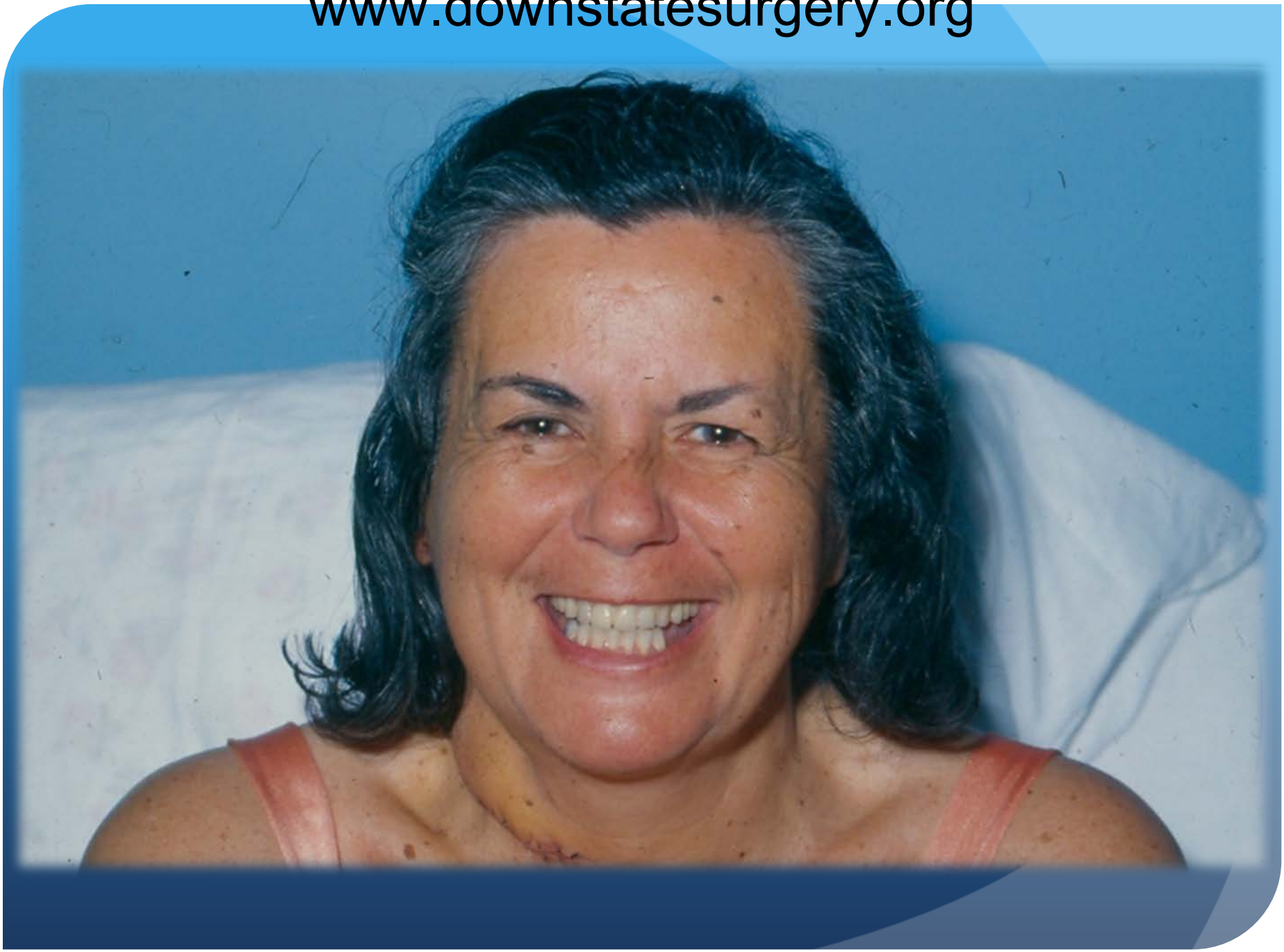

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QUESTIONS?

PAROTID TUMORS

INCIDENCE

- Salivary neoplasms relatively rare 2-4% H&N tumors
  - 80% arise from parotid gland
  - 15% submandibular gland
  - 5% minor and sublingual salivary glands
- 80% parotid tumors benign
- 50% submandibular tumors benign
- <20% minor and sublingual tumors benign

CATEGORIES

- Benign
  - Pleomorphic adenoma
  - Warthin's tumor
  - Oncocytoma
  - Basal cell adenoma
  - Autoimmune
  - Inflammatory
  - Infectious
- Malignant
  - Mucoepidermoid carcinoma
  - Acinic cell carcinoma
  - Adenoid cystic carcinoma
  - Squamous cell ca
  - Lymphoma
  - Undifferentiated carcinoma
  - Metastatic disease

PLEOMORPHIC ADENOMA

- Most common salivary neoplasm
- Also known as benign mixed tumors
- 90% within parotid are superficial to the facial nerve
- Typically well encapsulated but may have satellite nodules
  - Need a normal cuff of parotid to decrease recurrence
  - Superficial parotidectomy
- Rare malignant transformation

WARTHIN'S TUMOR

- 2nd most common benign tumor of salivary glands
- AKA papillary cystadenoma lymphomatosum
- !0% of parotid tumors (almost exclusive to parotid)
- 10% bilateral and multifocal parotid involvement
- Higher incidence in smokers and males

MUCOEPIDERMOID CARCINOMA

- Most common malignant salivary gland tumor
- More common in women between 20-70 YO
- Can have similar presentation to benign tumor
- Usually have a solid and cystic component
- Characteristically composed of mucous, epidermoid, and intermediate cell types
- Treatment is surgical

ACINIC CELL CARCINOMA

- Account for only 1-3% of all salivary gland neoplasms
- 90% arise in the parotid
- Hallmark pathology characterized by presence of acinic cells and dense lymphoid infiltrate
- Surgery with negative margin most important therapy
- 33% recurrence rate
- 10-15% lymph node metastasis

ADENOID CYSTIC CARCINOMA

- 2nd most common malignant tumor of all salivary glands
- Even distribution among all salivary glands
- Equal incidence in men and women with peak age between 50-60
- Typically well circumscribed but unencapsulated tumors
- Higher propensity for perineural invasion and late distant metastasis

WORK UP

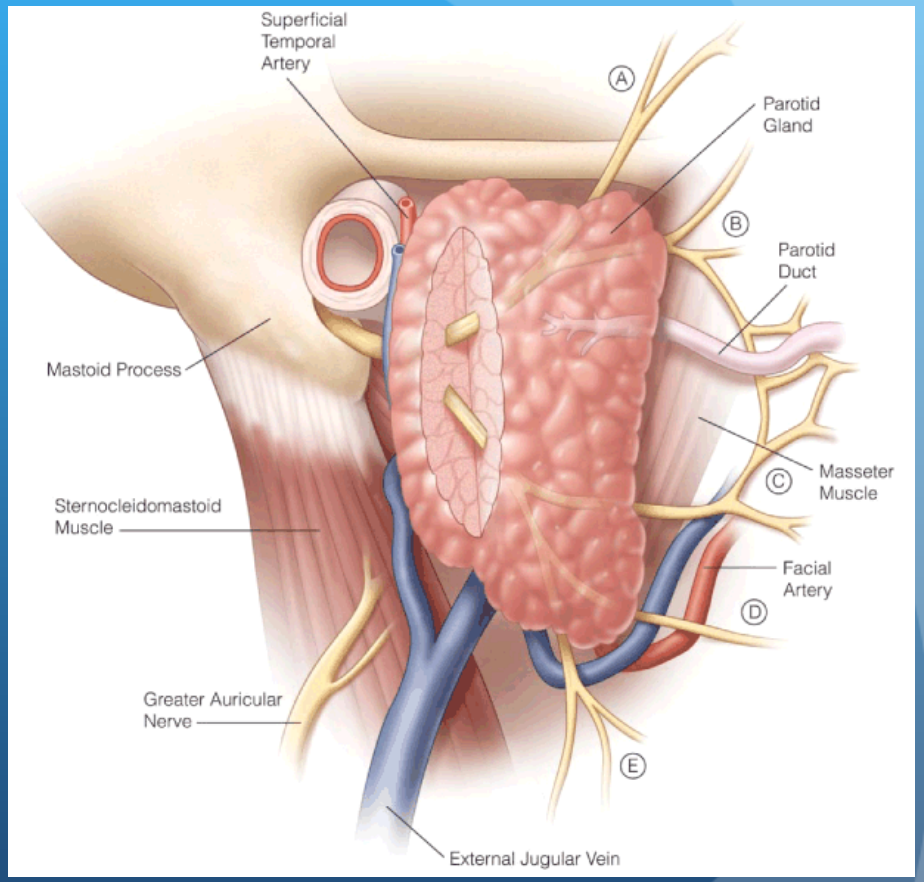
- History and Physical exam
  - Masses tend to be painless and slow growing
  - If acute pain think obstructive/inflammatory process
  - Features suspicious for malignancy:
    - Facial nerve paralysis
    - Fixed tumor with skin involvement
    - Regional adenopathy
    - Painful
  - History of skin cancer of head and neck
  - Medial displacement of the oropharyngeal wall suggests deep lobe involvement

WORK UP

- US, CT or MRI may help to characterize extent of tumor
  - Not routinely used for small benign appearing masses
- FNAB
  - 80-99% sensitive 96-100% specificity
  - Some controversy for routine use
  - May decrease unnecessary resections in those with inflammatory conditions or lymphoma

ANATOMY

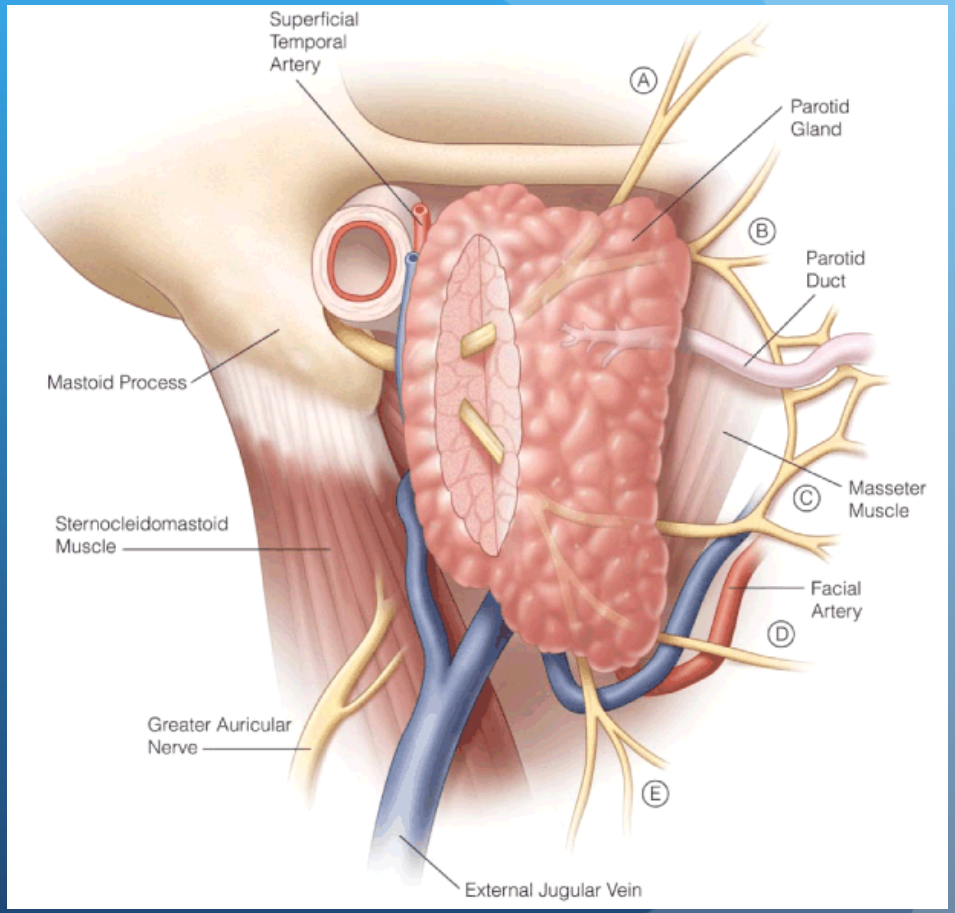
- Found anterior to the ear and can wrap around the angle of the mandible
- Between the superficial layer of the deep cervical fascia and the anterior surface of the SCM, posterior belly of the digastric and masseter



ANATOMY

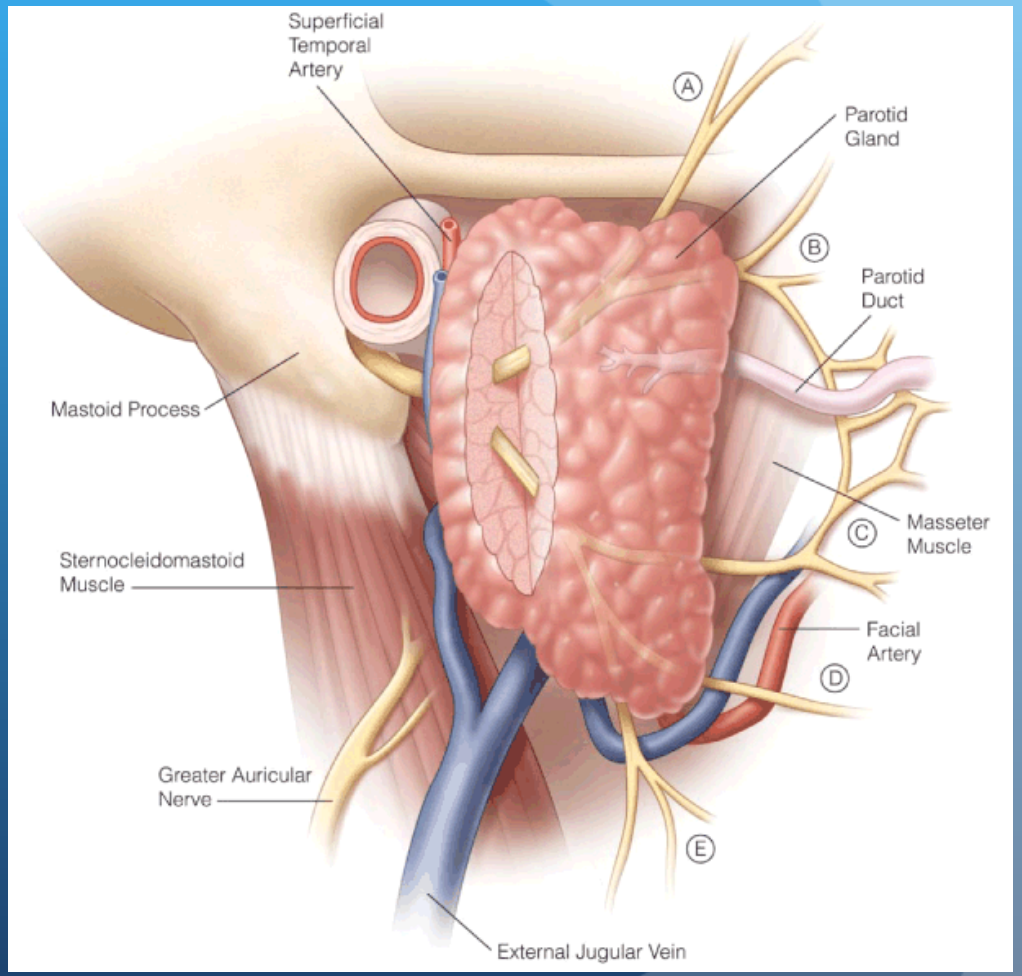
- Cranial boarder= zygoma
- Caudal boarder= SCM
- Posterior= mastoid process
- Anterior = masseter

- Stenton's duct
  - From superficial lobe
  - Pierces buccinator
  - Enters mouth anterior to second maxillary molar



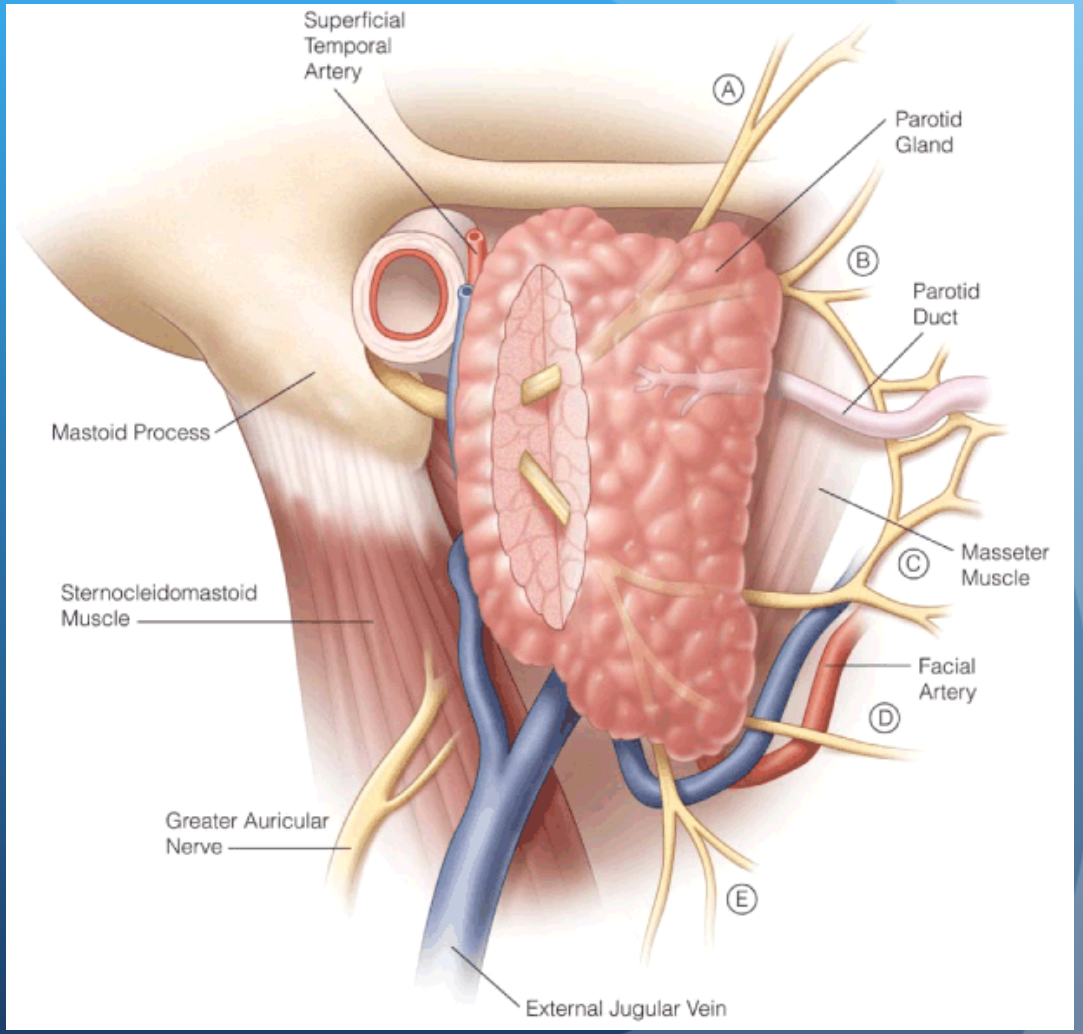
ANATOMY FACIAL NERVE

- Exits the stylomastoid foramen as main trunk
- 2 main divisions:
  - Upper temporofacial
    - 3 upper branches
  - Lower cervicofacial
    - 2 lower branches



BRANCHES OF THE FACIAL NERVE

- Temporal
  - Raises forehead
- Zygomatic
  - Keeps eyes closed
- Buccal
  - Flair nostrils
- Marginal mandibular
  - Oral continence
- Cervical
  - Platysma

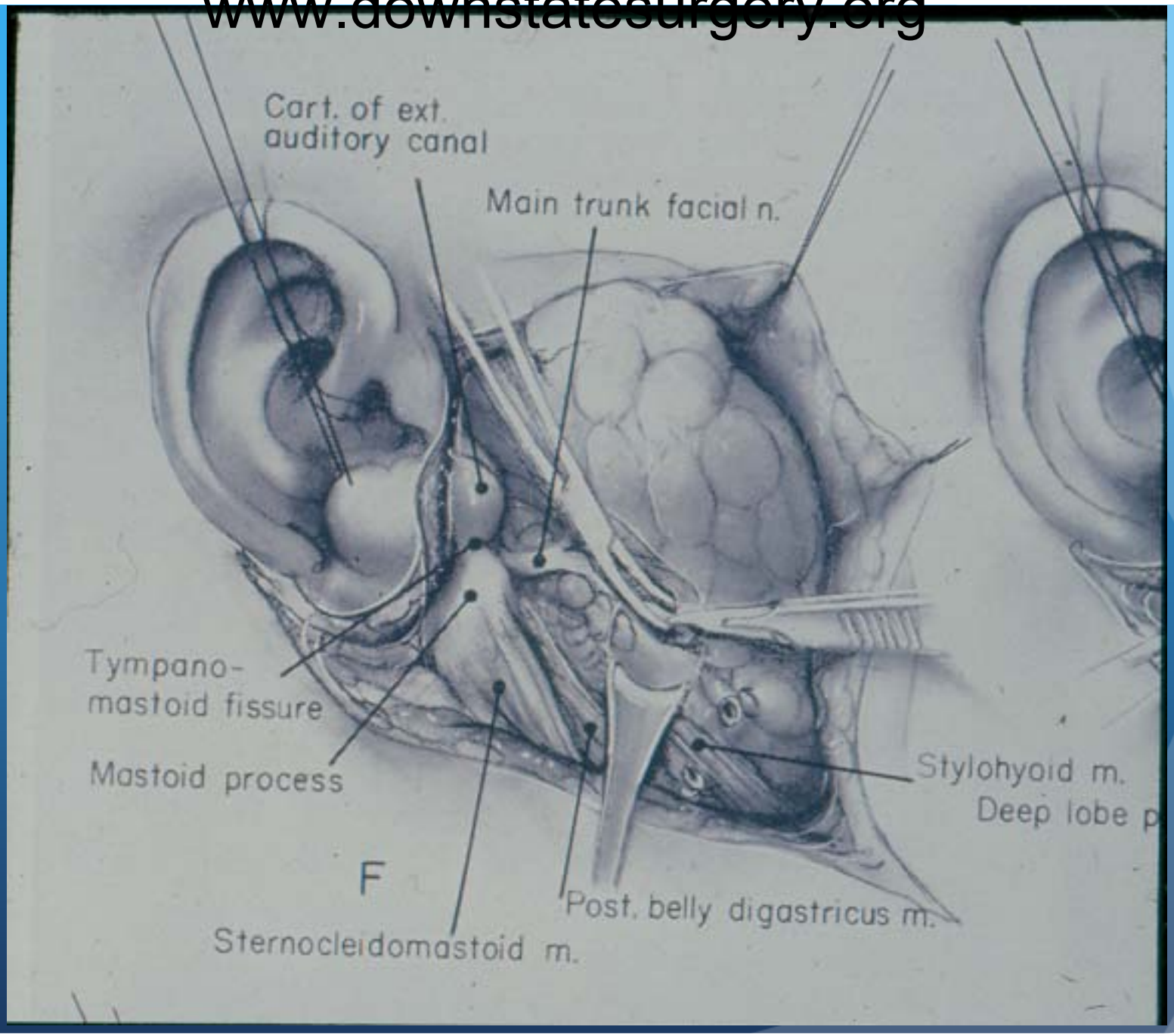


OPERATIVE APPROACH

- Modified Blair incision
  - Preauricular crease
  - Around the lobule
  - To the tip of the mastoid process
  - Then gentle curve anteriorly along SCM

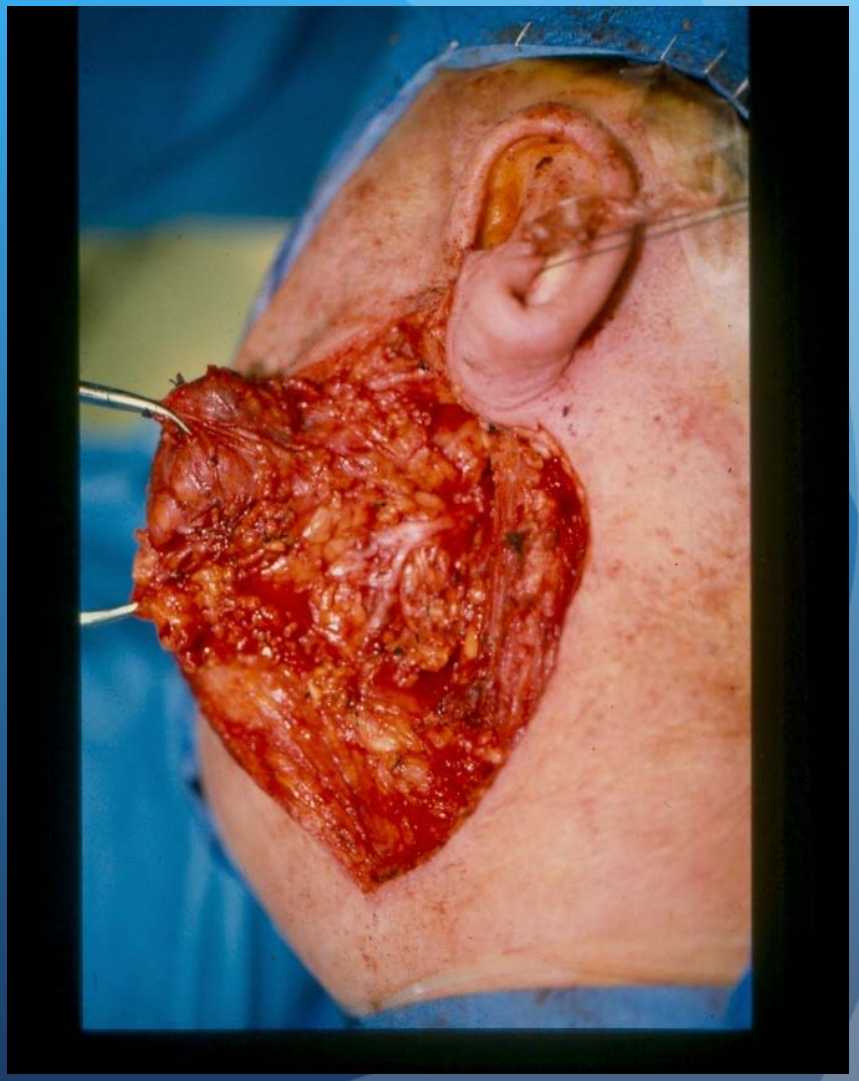
OPERATIVE APPROACH

- Skin flaps raised
  - Preauricular flap superficial to the parotid fascia
  - Inferior cervical flap deep to the platysma
- Greater auricular nerve and external jugular divided
  - Exposes tail of parotid
- Fascia between external auditory canal cartilage and parotid divided following posterior belly of digastric m.
- Exposes tragal pointer
  - Main facial nerve found approx 1 cm superior to the diagastric



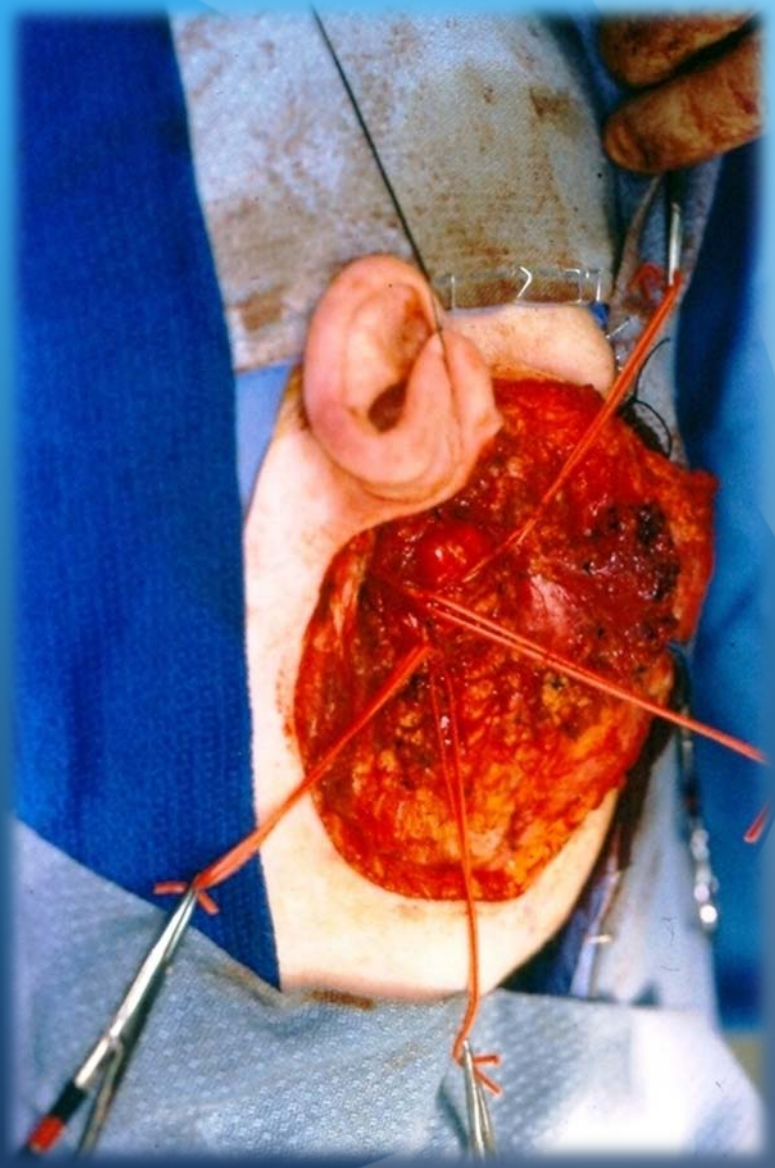
OPERATIVE APPROACH

- Once facial nerve identified
  - Careful dissection of parotid tissue superficial to nerve with fine clamp and sharp dissection
  - Avoid stretch to nerve
  - Careful hemostasis
- Closed suction drain placed
- Closure of wound in layers



OPERATIVE APPROACH TOTAL PAROTIDECTOMY

- First perform superficial dissection to preserve nerve
- Then separate deeper tissues from the nerve to complete parotidectomy



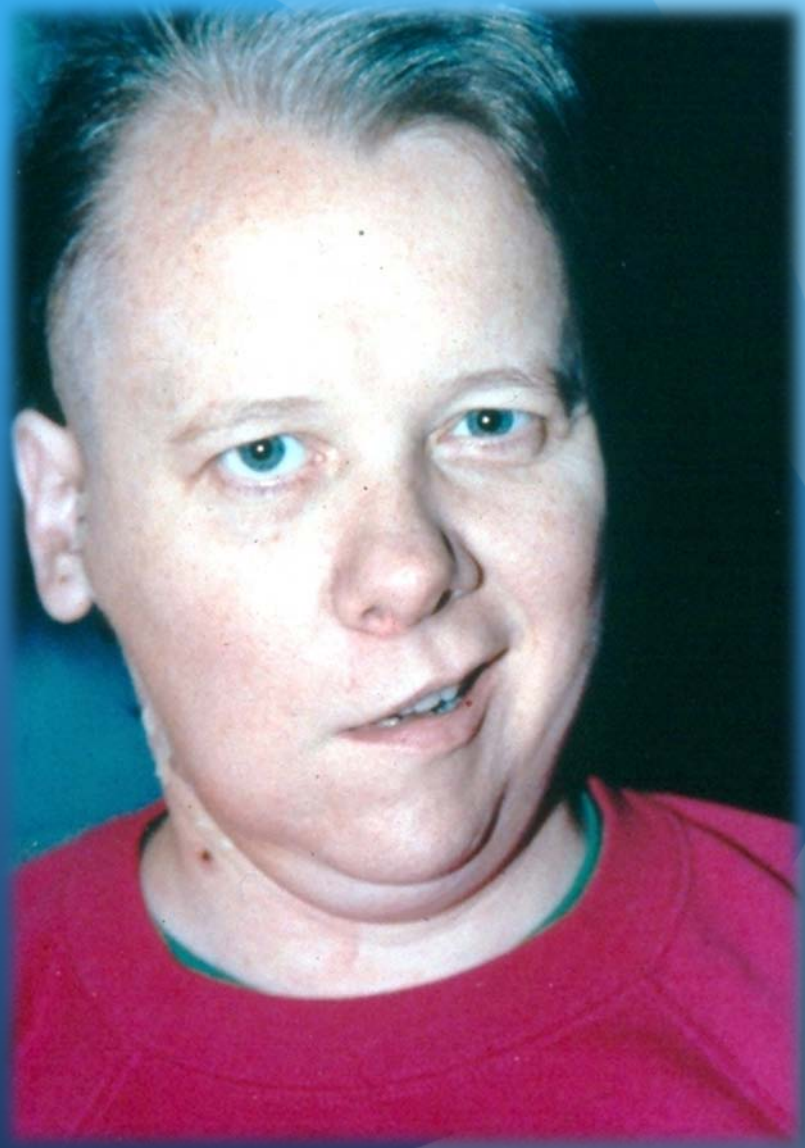
ADDITONAL THERAPY FOR MALIGNANCY

- Need negative margin
- High grade tumors typically need wider resection
- If nerve not involved spare it
- If nerve involved sacrifice it
- If cervical nodal involvement diagnosed preoperatively
  - Elective neck dissection based on extent
- Role for adjuvant radiation

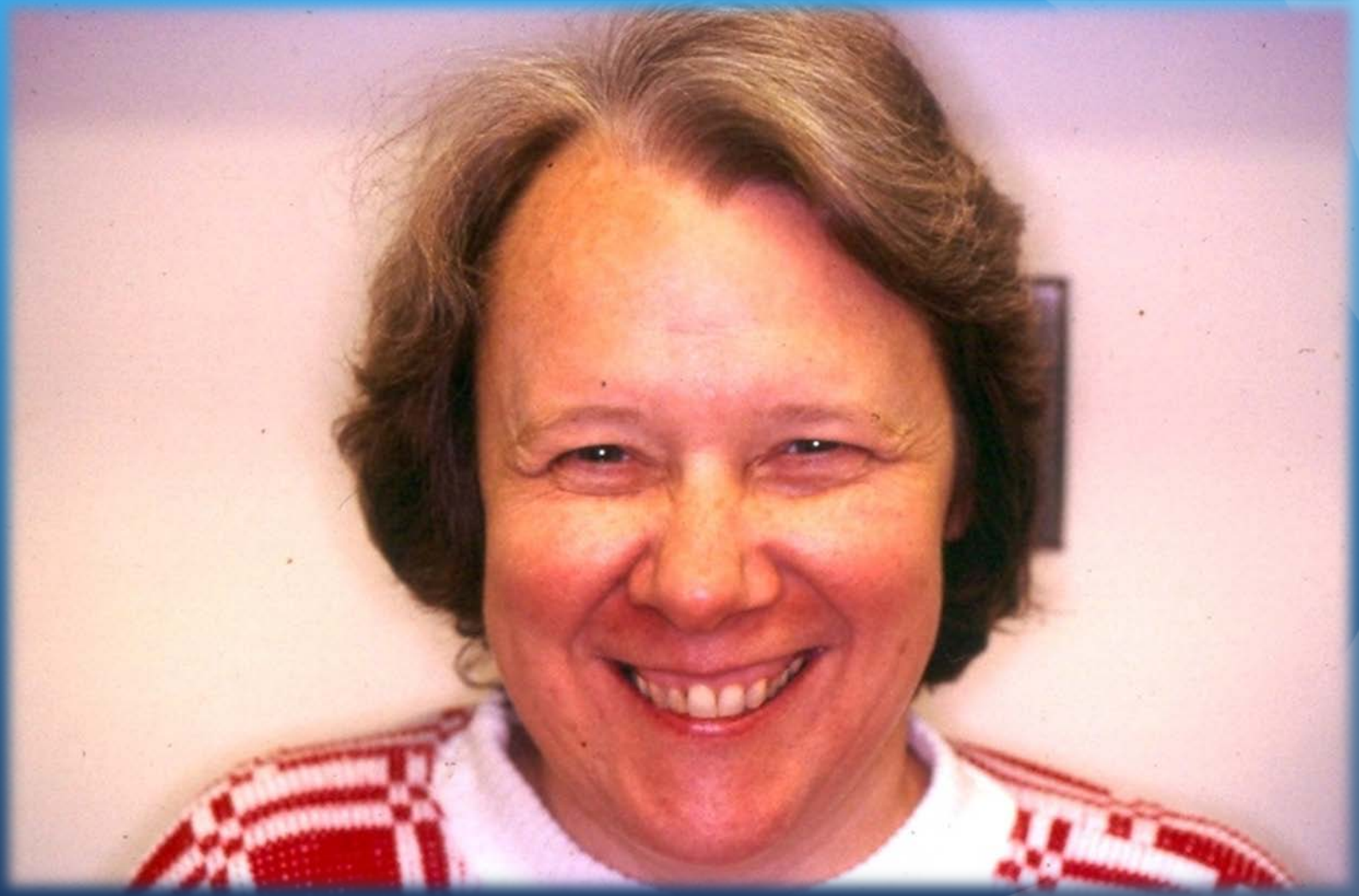
COMPLICATIONS

- Facial nerve injury
  - Higher risk in reoperation
  - Up to 40% will have some postop facial nerve dysfunction
  - Up to 4% have permanent manifestations
- Sensory deficits
  - Greater auricular nerve usually sacrificed
  - Loss of sensation to earlobe, pre and post auricular skin
- Salivary fistula
  - Treat with pressure dressing, aspiration and waiting
- Frey's syndrome

NEUROPRAXIA



SAME PATIENT



FREY'S SYNDROME

- Gustatory sweating
  - Flushing and sweating of ipsilateral facial skin with eating
- Likely due to aberrant parasympathetic cross reinnervation from the parotid to sympathetic fibers innervating sweat glands of the skin
- Reports suggest up to 50% develop Frey's post op
- Usually treat symptoms
- Botox may have a role in severe cases
- Thought that thick skin flaps decrease incidence