

Salivary Glands

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Anatomy

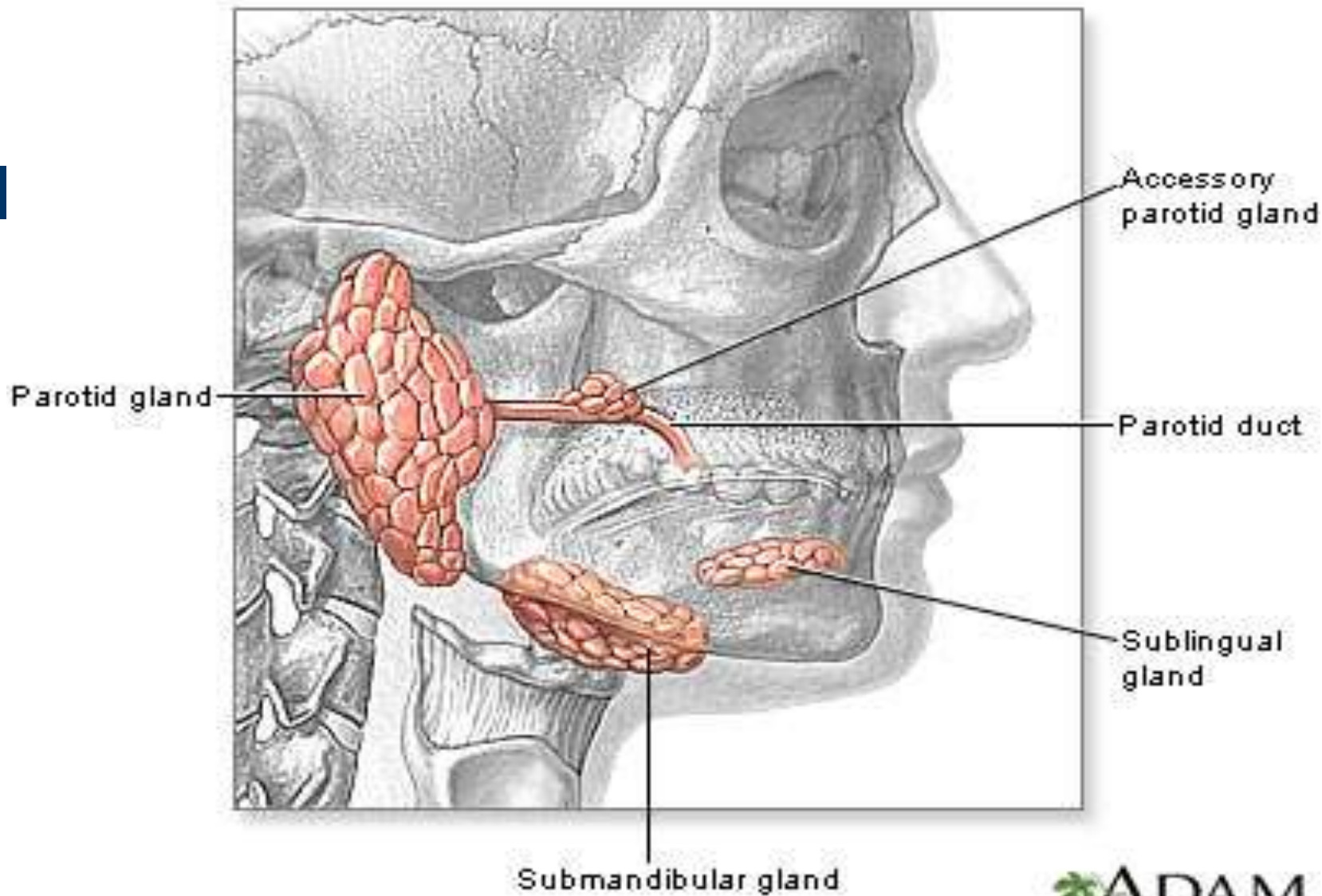
Paired Major Salivary glands

- Parotid: Stenson duct → 2° molar tooth.
- Submandibular: Warton duct → lateral to frenulum.
- Sublingual: in Warton duct.

Anatomy

Minor Salivary Glands

- In Soft palate, Hard palate , gingiva, lips.
- In all oral mucosa except the upper surface of the tongue.



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Saliva: 1000 – 1500 ml/day

Sialadenitis

- Acute
- Chronic

Acute

- Viral: Mumps
 - Self limited viral infection.
 - Common in children.
 - Diffuse inflammation of one or both parotid glands.
 - May be associated with pancreatitis, orchitis in adults, oophritis is rare.

- Acute Bacterial:
 - Dryness of mouth.
 - Ascending infection.
 - Cause Staphylococcus aureus.
 - Seen in elderly post.op and common in Parotid gland.

Chronic

- Autoimmune (sjogren syndrome)
 - Inflammation causes destruction of major and minor salivary glands)
 - 90 % women 35- 45 years of age.
 - 60% associated with SLE, Rheumatoid arthritis or scleroderma.

Sialolithiasis

- Most common in the duct of submandibular salivary glands.
- Intermittent obstruction → chronic sialadenitis
→ dilatation of the ducts and atrophy of acinar cells → superimposed infection and microabscesses .

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SALIVARY NEOPLASMS

- 70-80% of Salivary tumors → Parotids.
- 70-80% of Parotid tumors → benign.
- 80% of benign tumors → pleomorphic adenoma.

Pleomorphic adenoma

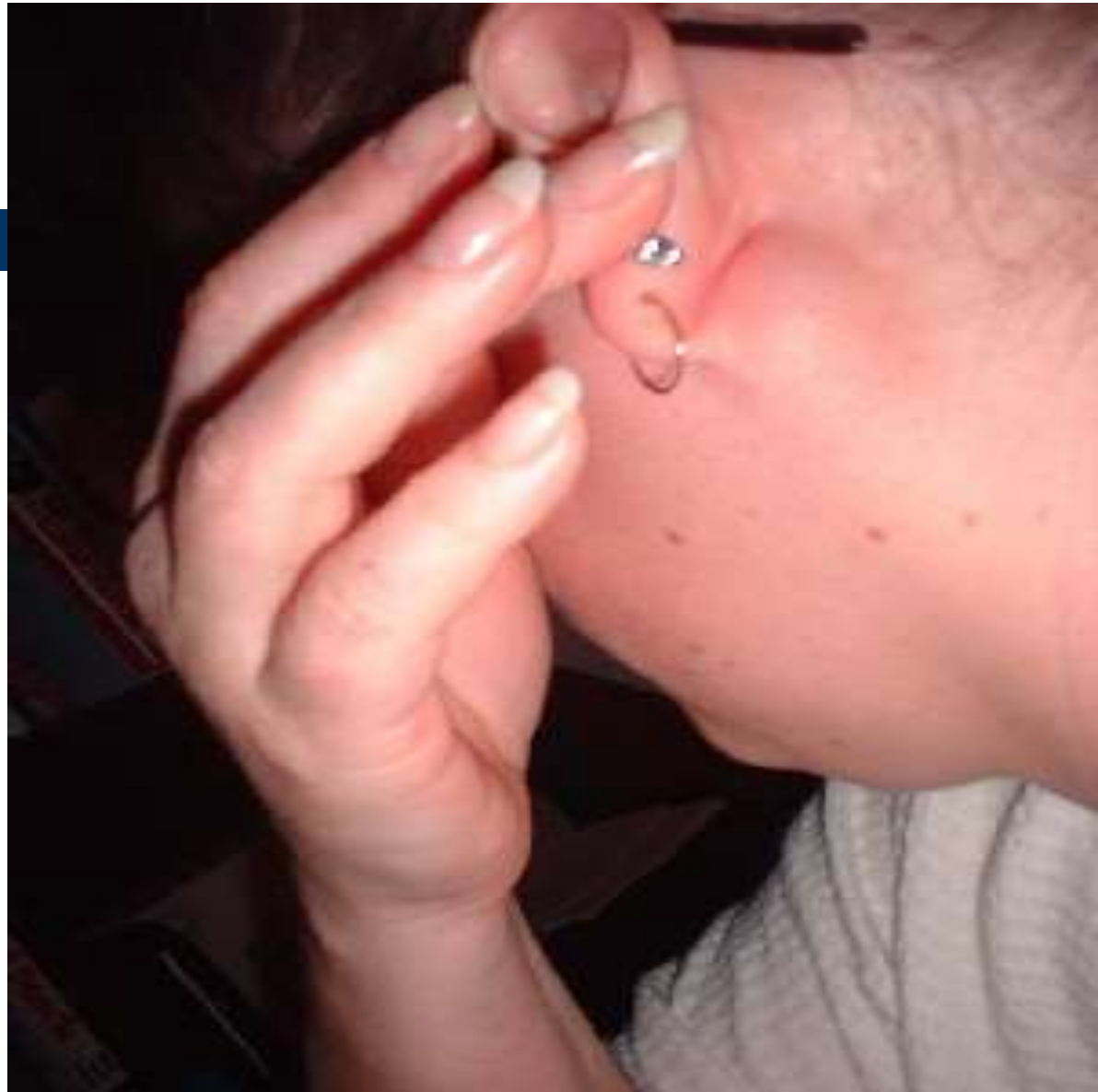
- Most common.
- Peak age: 5^o decade.
- Proliferation of:
 - epith.
 - myoepith.
 - stroma tissue → resemble cartilage and bone.

presentaion

- Solitary Painless mass in Parotid area,firm,slowly growing,mobile.
- Intraoral pharyngeal mass extending from parapharynx (deep lobe)
- 2-10% may turn into malignant (usually adenocarcinoma)



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- Gross appearance: irregular round to ovoid mass, well defined borders, white to tan cut surface.
- Sometimes have haemorrhage and infarcted areas.



Papillary Cystadenoma Lymphomatosum(Warthin)

- Occurs only in Parotid.
- 10% bilat.
- More in males(90%)
- More in smokers.
- Cystic mass(may be fluctuant)
- Doesnot change into malignancy.

- Gross appearance: ovoid to spherical mass with variable no. Of cysts that excude a clear fluid.



Rare Benign Types

- Oxyphilic adenoma, oncocytic adenoma, basal cell adenoma, sebaceous adenoma, canalicular adenoma.

Benign non epithelial tumors

- Haemangioma:most common in children,compressible mass,ttt include steroids , angiogram & surgery,spontaneous regression may occur.
- Lipoma
- Lymphangioma(cystic hygroma):50% manifest at birth,80% by 2 years.

Malignant Tumors

- 96% → discrete mass.
- 4% → diffuse enlargement.
- 12-24% → painful.
- 17% → fixed to masseter.
- 8-26% → fascial nerve dysfunction.
- 9% → skin ulceration.
- Formication: parasthesia described as feeling of ants crawling on skin.

- LN metastases increase with high grade mucoepidermoid and squamous cell ca.
- Less with adenoid cystic acinic cell ca.



Risk of malignancy:

20% in Parotids.

40% in submandibular.

60% in minor salivary glands

Malignant Tumors

- Mucoepidermoid:
 - most common.
 - usually in parotid, 2^o site is palate.
 - peak age 5^o decade.
 - high or low grade.
 -

Malignant Tumors

- Adenoid cystic :2° most common, but is the most common in other glands than parotid.
- Usually well defined but not encapsulated.
- Rarely involves lymph nodes, may have perineural invasion, may reach base of skull.
- Has a tendency for distant mets. especially lung.

Malignant Tumors

- Acinic cell Ca.: 2° most common parotid and paediatric ca.
- Has a good prog.:
 - 5 years-----85%
 - 10 years-----68%
 - 25 years-----50%

Malignant Tumors

- Adenocarcinoma and Squamous Cell Carcinoma are rare and aggressive types.

Evaluation

- A complete hx. Including onset(first time the mass was noticed, uni or bilat., progression,hx. Of pain, hx. Of trauma,contact hx.etc)

Evaluation

- P/E. Should include in addition to the mass :
 - The rest of salivary glands.
 - Fascial Nerve examination with all its branches.
 - Oral examination for pharyngeal bulge, and orifices of salivary ducts.
 - Cervical lymphnodes.

Evaluation

- In Diffuse Swelling: to rule out sialadenitis
 - Antibiotic trial for 10 days.
 - Sialogram.

Radiological Evaluation

- CT Scan and MRI:

To determine the extension of the
disease.

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QXI

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DOB: May 12 1943
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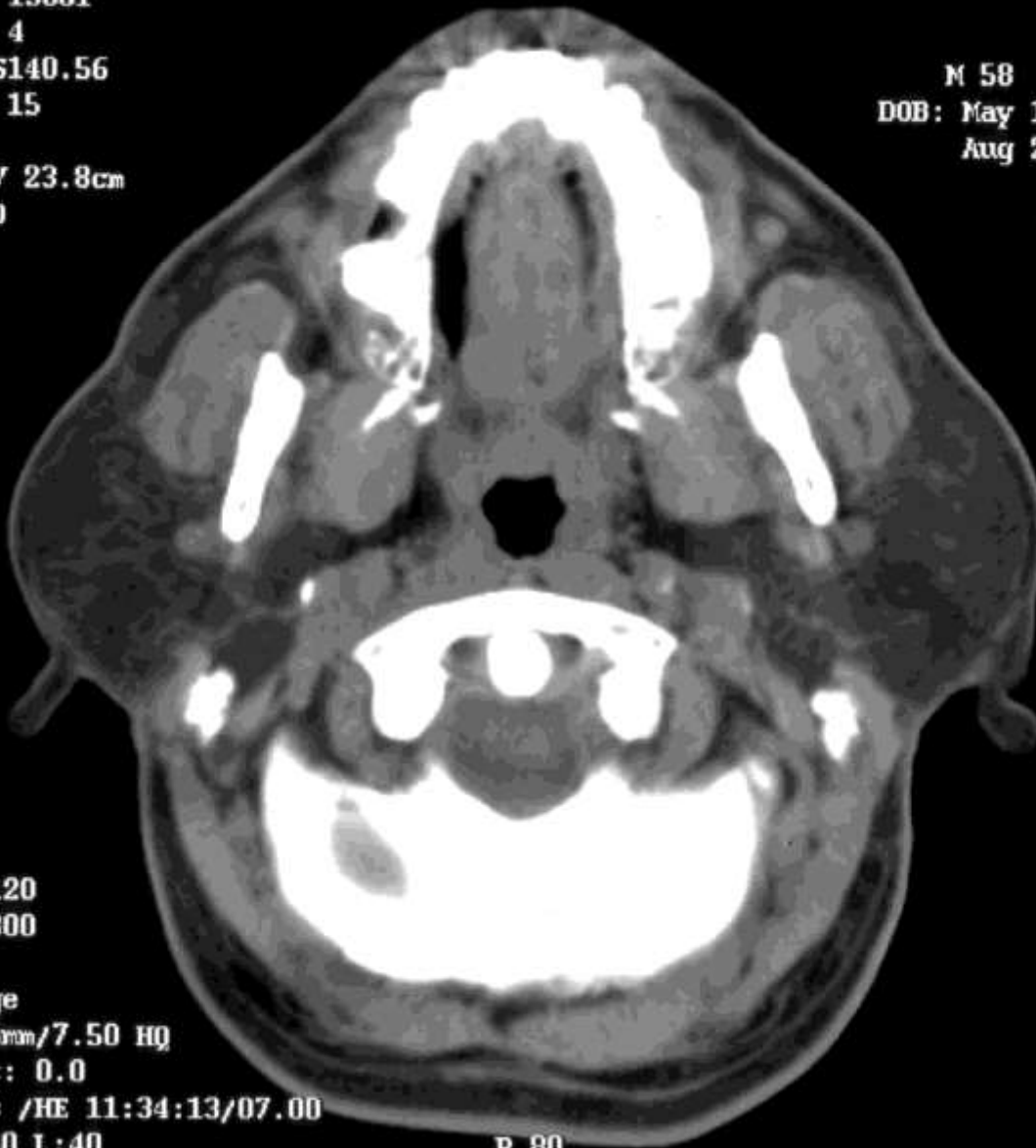
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QXI

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M 34

May 11 2001

512

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STND

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Large

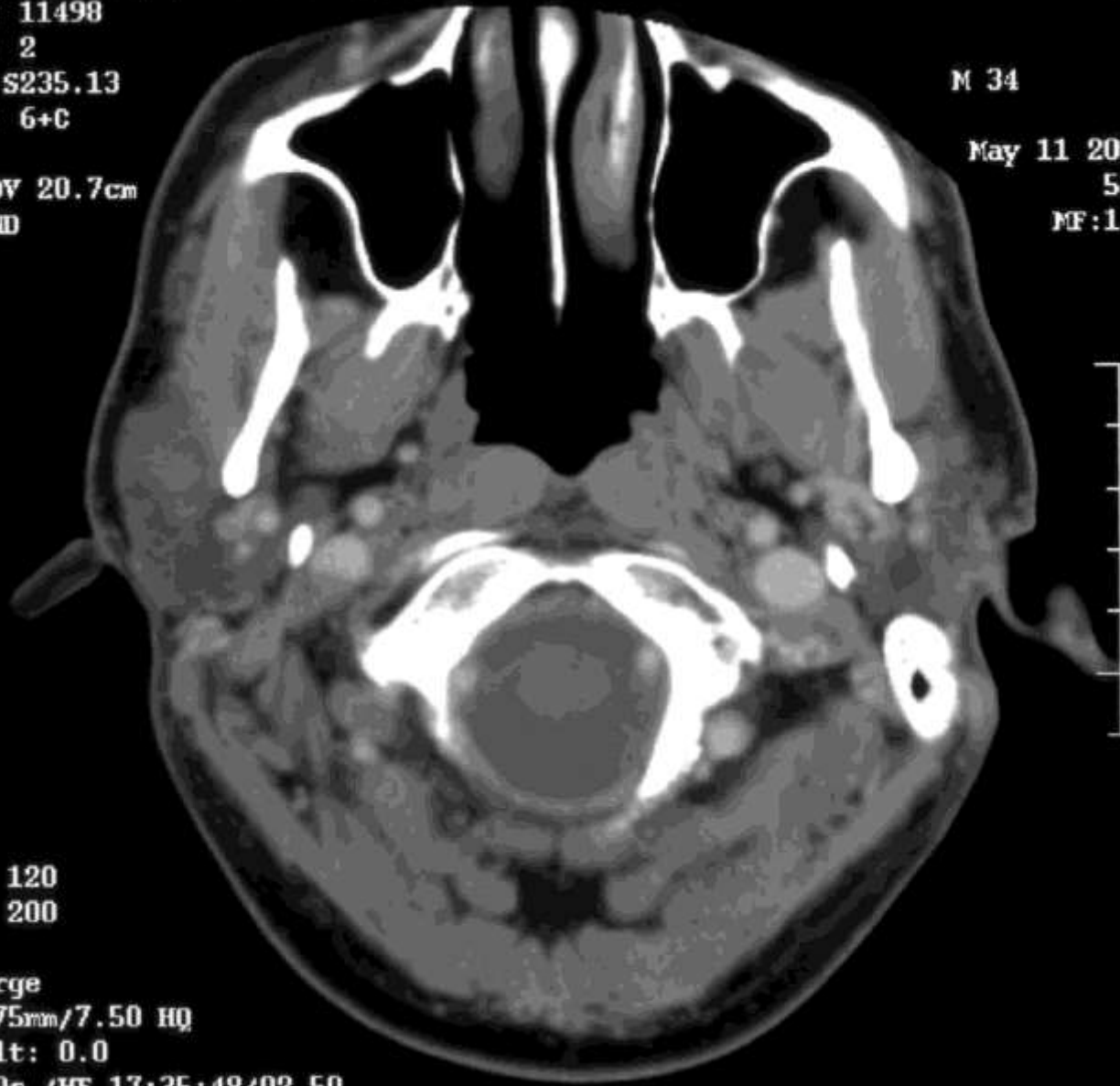
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QXI

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Im: 14+C

F 84

DOB: Dec 15 1916

Jan 24 2001

512

DFOV 20.8cm

STND

R

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4

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Large

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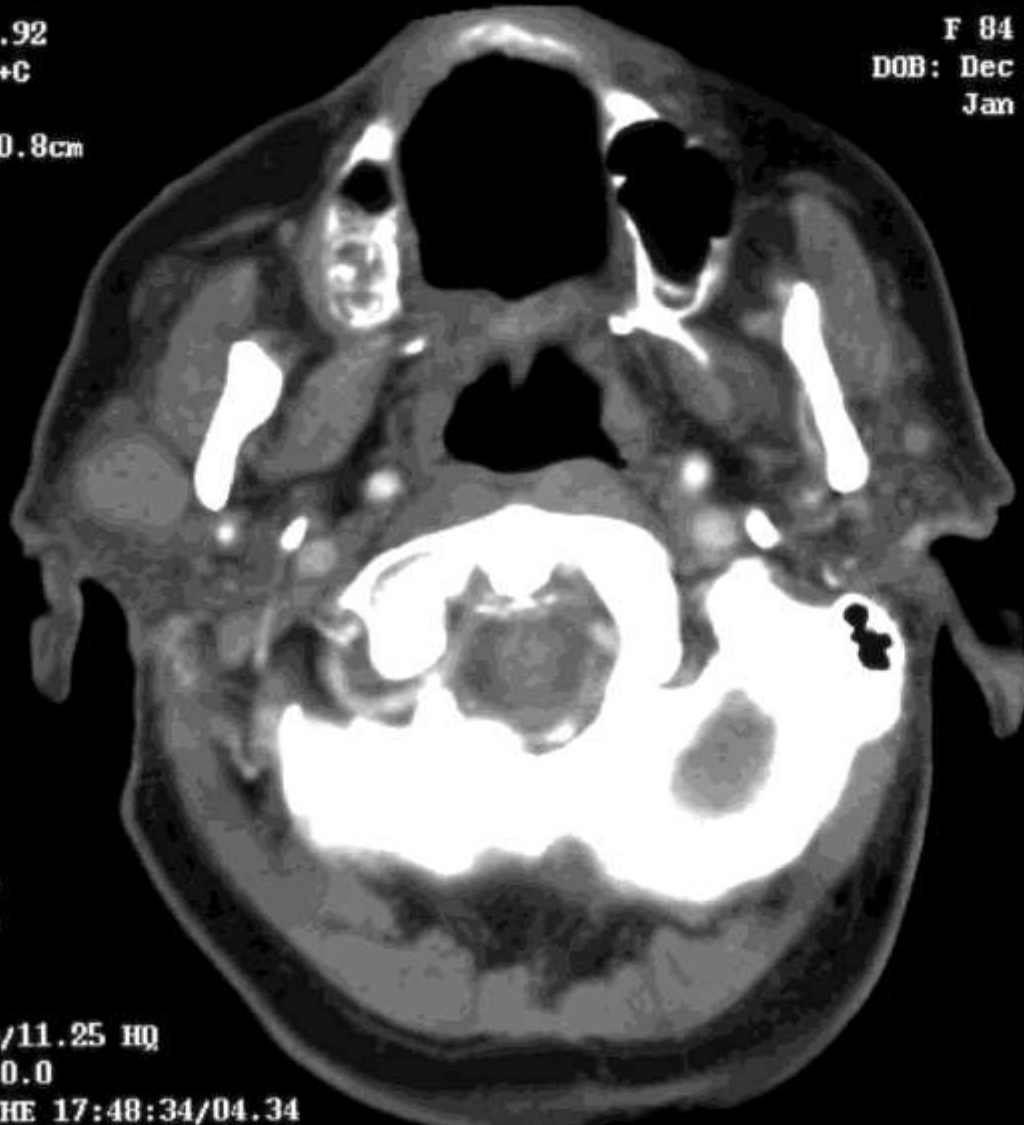
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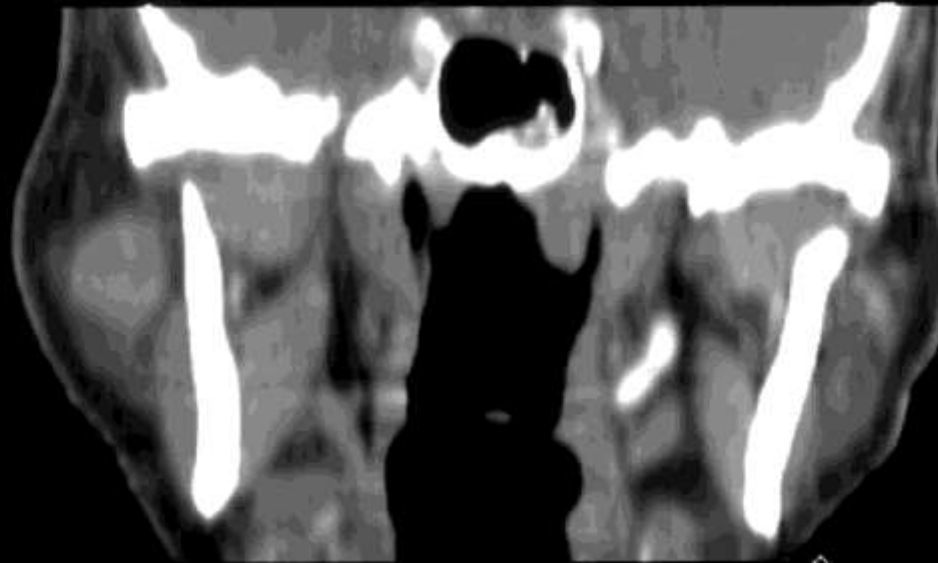
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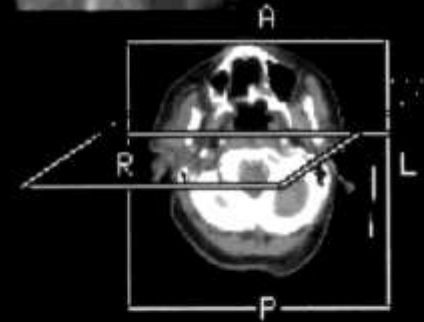
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I 22



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S 186

QXI

F 84
Jan 24 2001

DFOV 20.8 cm
STANDARD

LightSpeed QX/i SYS#CT01_000

AXI

QXI

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SN S152.57

Im: 4+C

M 41

DOB: Jan 10 1960

May 19 2001

512

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STND/P

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L

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kV 120

mA 250

Small

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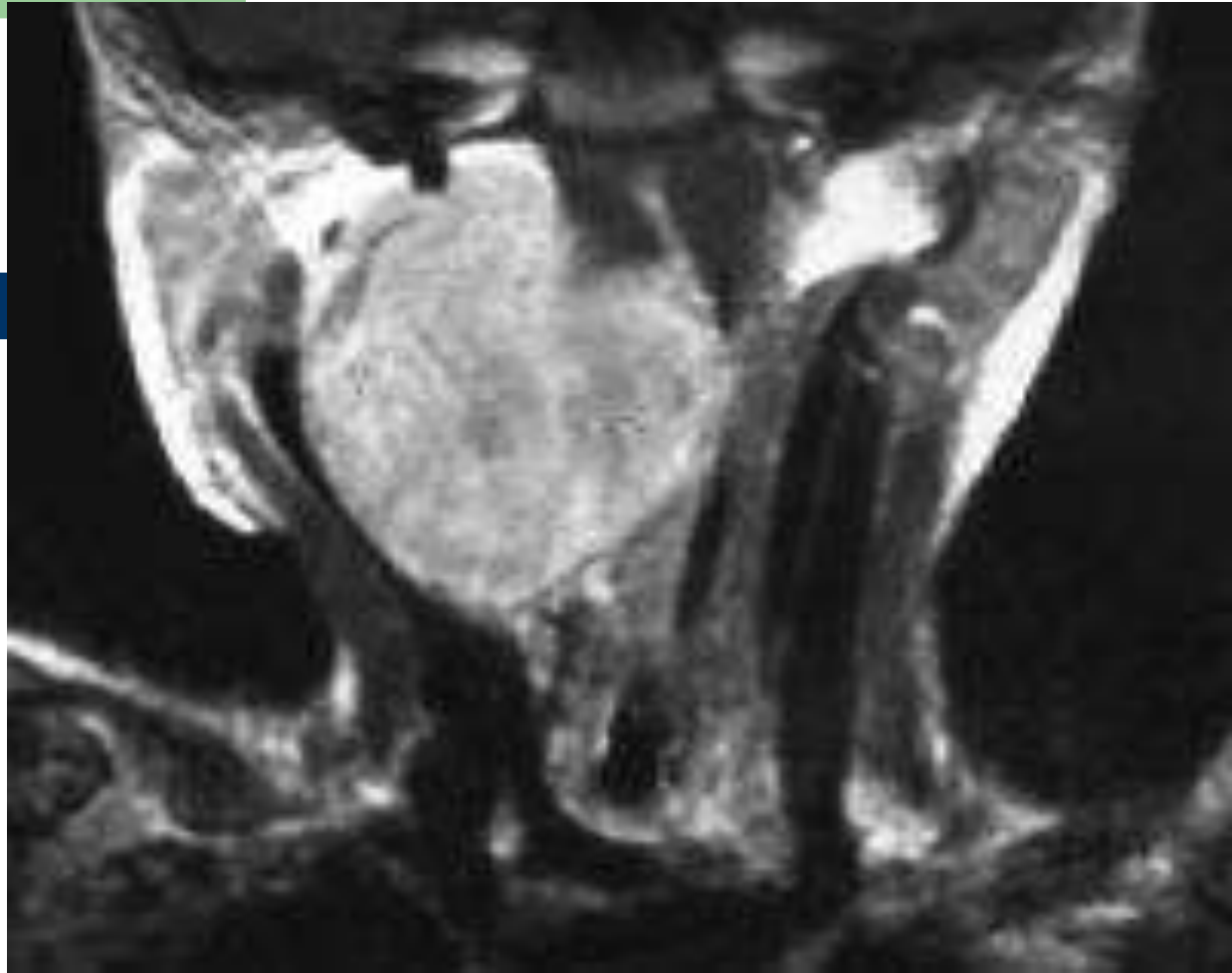
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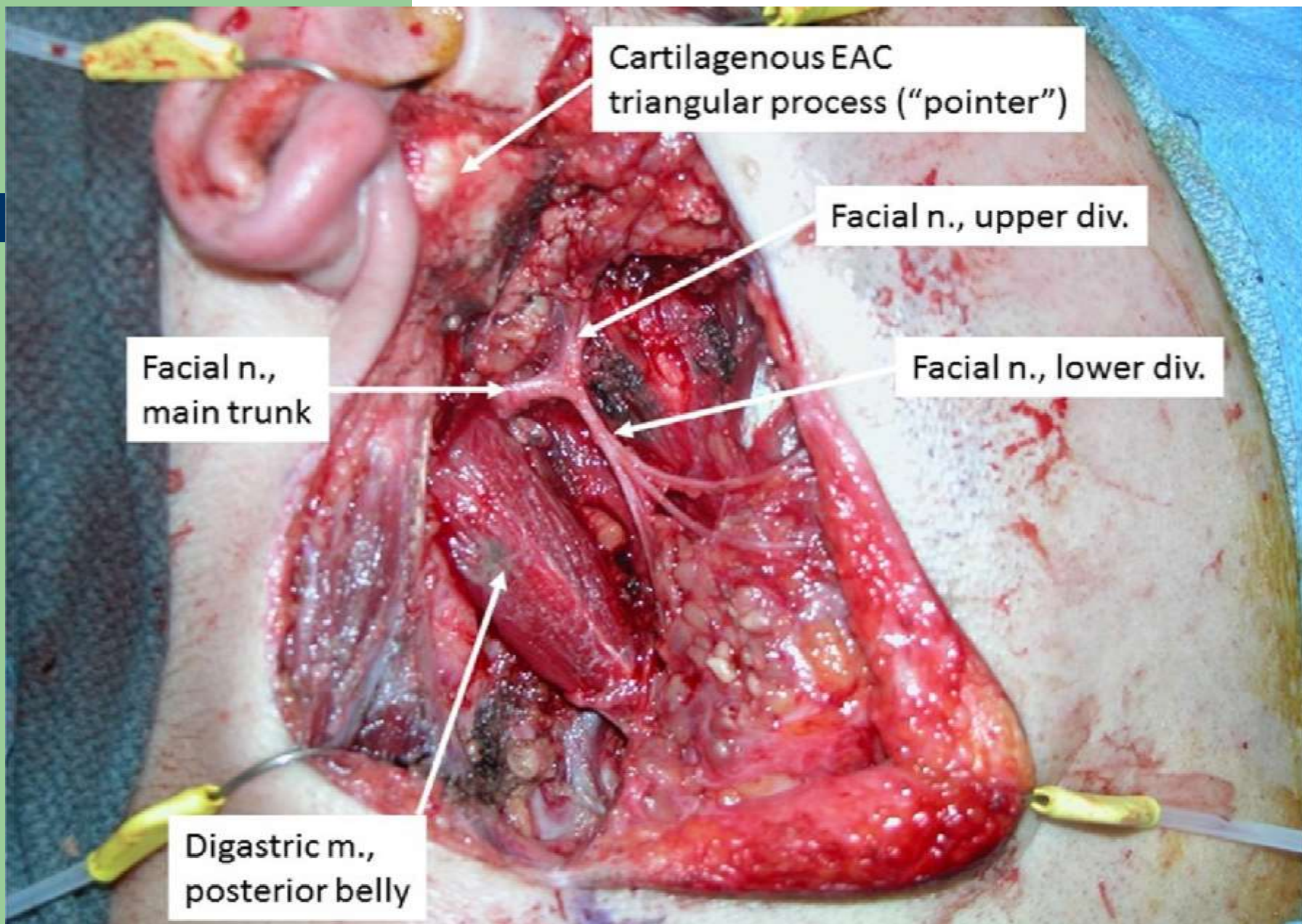


Fine Needle Aspiration

- The accuracy, sensitivity and specificity reported in the literature vary from 84-97%, 54-95% and 86-100% respectively.
- Some surgeons argue its importance:
 - ttt always surgery.
 - tumor implantation.

Treatment

- Problem: fascial nerve passes through the Parotid.
- Benign: superficial parotidectomy with nerve preservation.
- Malignant: total parotidectomy with nerve preservation.
if one branch is involved → excision of that branch.



Cartilagenous EAC
triangular process ("pointer")

Facial n., upper div.

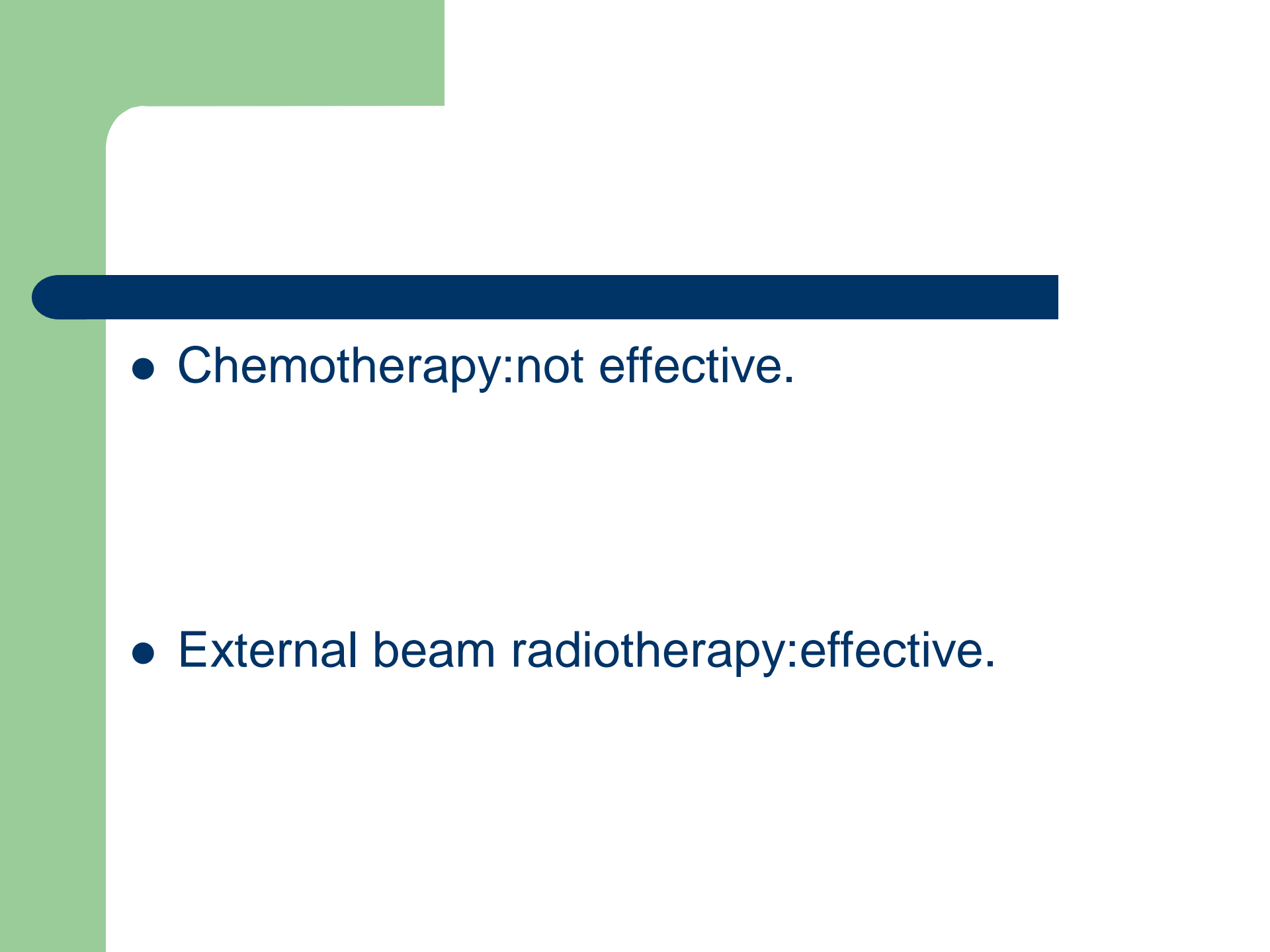
Facial n.,
main trunk

Facial n., lower div.

Digastric m.,
posterior belly

Neck Dissection

- If positive LNs → Neck Dissection.
- No consensus on neg LNs.
 - in high grade mucoepidermoid, squamous or adenocarcinoma → prophylactic neck dissection may be justified.

- 
- Chemotherapy: not effective.
 - External beam radiotherapy: effective.

Submandibular

- Total excision of the mass with preservation of marginal mandibular, hypoglossal, lingual nerves if possible.
- If involved should be sacrificed, sometimes with platysma and skin.

Minor Salivary Glands

- Excised sometimes with adjacent bone as hard palate.
- Necrotizing sialometaplasia: a self limiting disease between hard and soft palate that may ulcerate and mimic malignancy.