SALIVARY GLAND SURGERY

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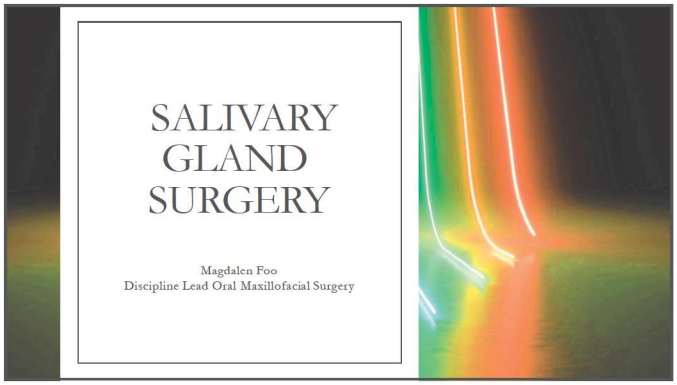
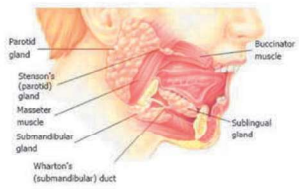


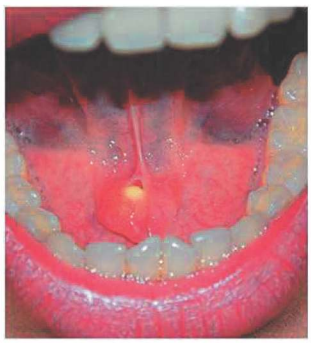


Major and minor salivary glands

- Normal function and health of the mouth depends on normal secretion of saliva by the major and minor glands
- Parotid, submandibular, and sublingual glands are paired major salivary glands
- Minor salivary glands are located in the lips, buccal mucosa, and linings of the mouth and throat.

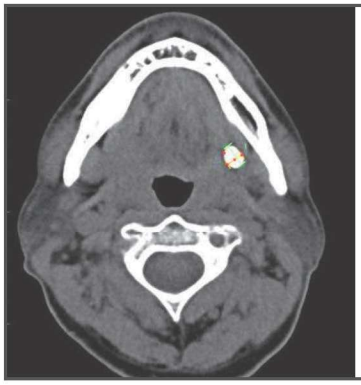
Obstruction

- Salivary calculi (stone)
- Duct strictures
- Mucocele



Sialolithiasis (salivary stone disease)

- Commonest disorder of the salivary glands
- 80 % occurs in the submandibular gland
- Calculi formed by deposition of calcium salts around a nidus of organic material
- Calculi may cause the duct lining to undergo squamous metaplasia
- Adherent layer of microbial flora grows on stones and together with obstruction, triggers inflammation and fibrosis around the duct

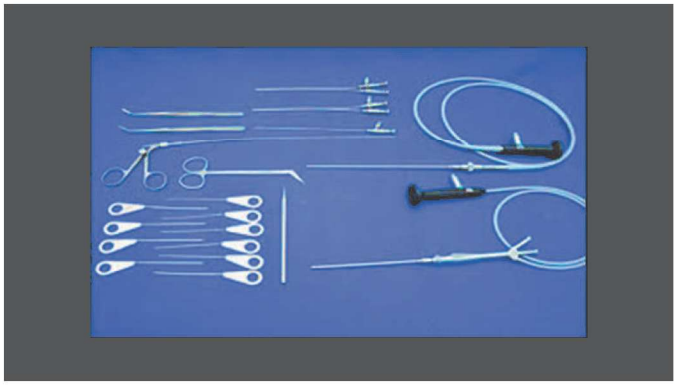


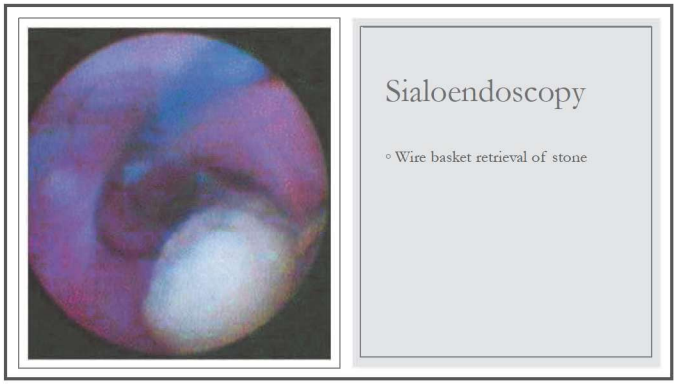
OBSTRUCTION OF SMG

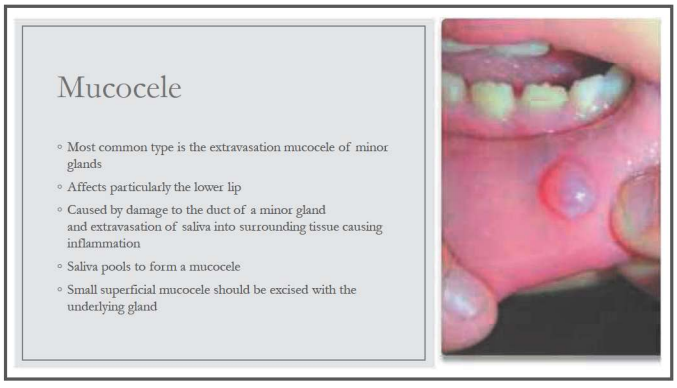
- Stone in submandibular duct
- CT
- MRI
- Sialography

Sialography

- Radiographic examination of the salivary glands
- Injection of a small amount of contrast medium into the salivary duct of a single gland, followed by radiographs

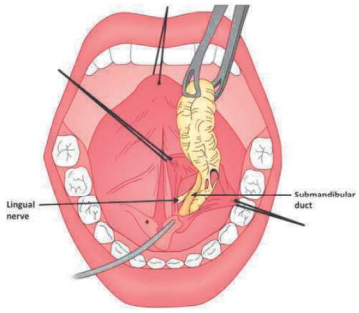



Sialoendoscopy
◦ Wire basket retrieval of stone

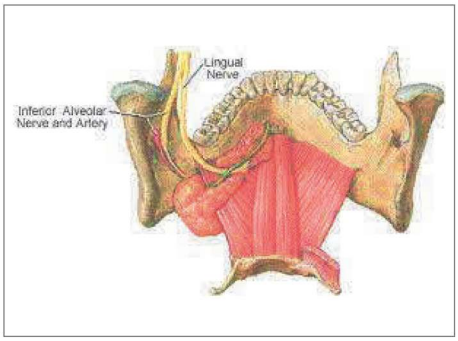

Mucocele
◦ Most common type is the extravasation mucocele of minor glands
◦ Affects particularly the lower lip
◦ Caused by damage to the duct of a minor gland and extravasation of saliva into surrounding tissue causing inflammation
◦ Saliva pools to form a mucocele
◦ Small superficial mucocele should be excised with the underlying gland

Ranula

- Mucous extravasation cyst involving a sublingual gland and is a type of mucocele found on the floor of the mouth
- Soft, fluctuant and bluish
- Usually 2-3 cm in diameter and may interfere with speech or mastication
- Treatment is marsupialisation with removal of sublingual gland or excision of the cyst plus the sublingual gland



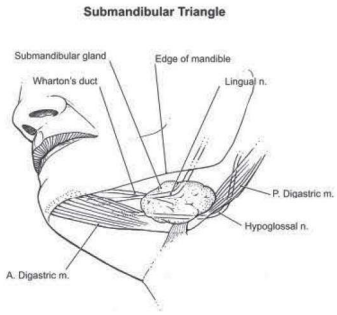
SUBLINGUAL GLAND ANATOMY



Floor of mouth

Complications of SMG surgery

- Weakness of the lower lip – **marginal mandibular branch** of the facial nerve is the nerve most likely to be bruised in the removal of a submandibular gland.
- Other complications are lingual and hypoglossal nerve injuries



SUBMANDIBULAR GLAND ANATOMY

Management of salivary gland obstruction

- Antibiotics for underlying salivary gland infections
- Lithotripsy +/- sialoendoscopy to retrieve calculi
- Excision of calculi from Wharton's duct (sialolithotomy)
- Excision of the gland (submandibular gland or superficial parotidectomy)

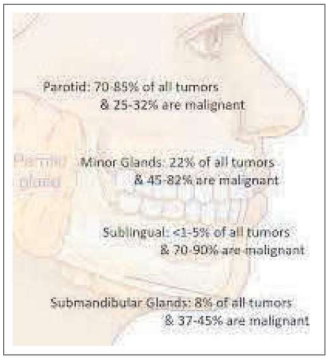
Lymphoepithelial cysts

- Slow growing unilocular or multilocular lesions, predominantly in the parotid glands
- Obstruction of salivary ducts by diffuse lymphoid infiltrate
- Seen in patients with HIV infection as part of diffuse infiltrative lymphocytosis syndrome
- In non-HIV individuals with autoimmune disease e.g. Sjogren syndrome, lymphocytes infiltrate the gland and cluster around ducts. The result is destruction of acini and replacement of the whole gland by dense lymphocytic infiltrate

BILATERAL PAROTID ENLARGEMENT

Salivary gland tumours

Global annual incidence of 0.4 13.5 cases per 100,000
Commonly appear in sixth decade of life
Malignant lesions typically present after age 60 years
Benign lesions usually present between 40-60 years
Malignant tumours distributed equally between the sexes
Incidence of salivary gland cancer in Australia is 1.2 per 100,000 and mortality is 0.3 per 100,000
Accounts for 5-6% of head and neck cancers, and 0.3 1% of all sites malignancy



Salivary gland tumours

Salivary gland neoplasms

Epithelial tumours

Adenomas

- Pleomorphic adenoma
- Warthin's tumour
- Oncocytoma
- Basal cell adenoma

Salivary gland neoplasms

Epithelial tumours

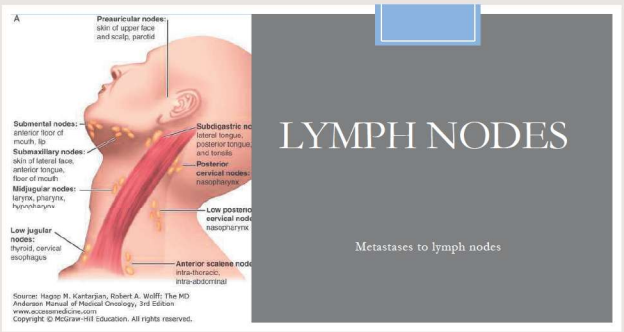
Carcinomas

- Mucoepidermoid carcinoma
- Acinic cell carcinoma
- Adenoid cystic carcinoma
- Polymorphous low-grade adenocarcinoma
- Salivary duct carcinoma
- Epithelial-myoepithelial carcinoma
- Adenocarcinoma
- Undifferentiated carcinoma
- Carcinoma ex pleomorphic adenoma

Salivary gland neoplasms

Non-epithelial tumours

- Lymphomas
- Metastases to parotid lymph nodes and submandibular lymph nodes



LYMPH NODES

Metastases to lymph nodes

Clinical features of salivary gland tumours

Benign salivary gland tumours

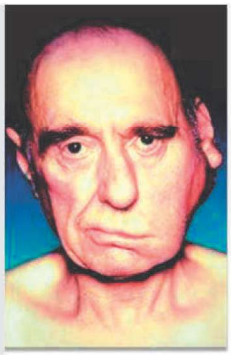
- Slow-growing
- Soft consistency
- 85% of parotid tumours
- Do not ulcerate
- No associated nerve signs

Malignant salivary gland tumours

- Sometimes fast-growing and painful
- Sometimes hard consistency
- Comprise 45% of minor gland tumours
- May ulcerate and invade bone
- May cause cranial nerve palsies

Malignant parotid tumour

- Hard fixed lump
- Numbness
- Muscle weakness
- Difficulty swallowing
- Trismus
- Lymph node metastasis

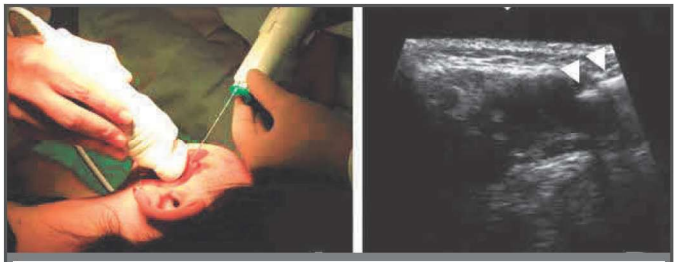


Diagnostic imaging

- Sialography useful for inflammatory disease
- CT, US and MRI for suspected neoplasm
- MRI often superior to CT in demonstrating interface of tumour and surrounding tissue to predict possible malignancy

Fine needle aspiration cytology (FNAC)

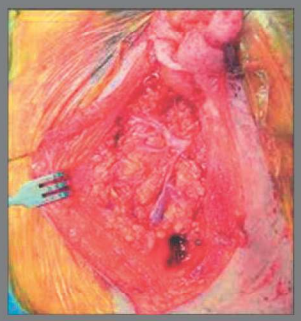
- Evaluation of head and neck tumours
- Provides distinction between benign and malignant tumours
- Inexpensive, easy to perform, relatively painless and well tolerated
- Correctly establishing diagnosis as benign or malignant in 81-98% of cases
- False positive and false negative rates 1-14%
- Specific diagnosis in 60-75%
- Accuracy of FNAC varies depending on the precision and experience of the pathologist



CORRELATION OF CYTOLOGICAL DIAGNOSIS AND IMAGING STUDIES GUIDE DIFFERENT TREATMENT PATHWAY

PAROTID TUMOUR

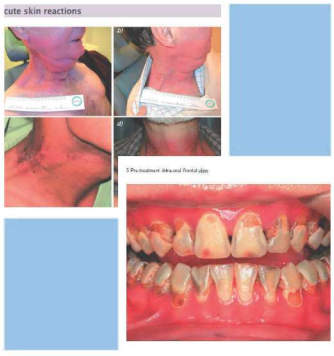
FACIAL NERVE



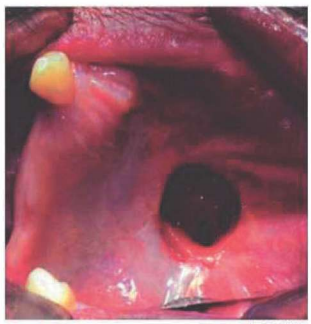
Parotid gland malignancy

- Parotid gland malignancies with clinically evident regional nodal metastasis should undergo a formal neck dissection, followed by appropriate adjuvant therapy e.g. radiotherapy

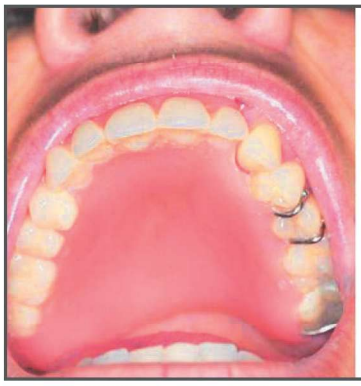
Radiotherapy



Minor salivary gland tumour



Hole in palate



Obturator

Graft to palatal defect