

***These are notes for Head&Neck 2&3 taken by Faisal Al-Tamimi and they are the important points stated by the doctor. He said they would come on the exam.**

Head & Neck II

Thyroid

Papillary thyroid cancer is the most common malignant cancer in adults. Fine Needle Aspiration is the gold standard for diagnosis. Pediatrics usually do Ultra Sound.

- Benign → repeat U/S every 6 months.
- Malignant → most commonly papillary thyroid carcinoma; do surgery
- Intermediate → 80% benign, 20% malignant → do hemithyroidectomy
- Non-diagnostic → -repeat FNA. If tumor > 2 cm, positive family history, matching criteria → hemithyroidectomy.

Indications of Thyroid Surgery:

- Hyperthyroidism; if uncontrolled.
- Cancer → total thyroidectomy + Iodine 131
- Suspicion of cancer → you do hemithyroidectomy.
- Compression symptoms.
- Cosmetic

Malignant Thyroid Lesions:

- Well differentiated cancer
 - Papillary Thyroid Carcinoma → ***total thyroidectomy + Iodine 131***
- Poorly differentiated cancer
 - Medullary carcinoma → associated with MEN II → ***total thyroidectomy + bilateral neck dissection***
 - Do surgery in all poorly differentiated cancers ***except Squamous Cell Carcinoma***

Salivary Glands

- ***Main function of the salivary gland is hypotonic saliva secretion.***
- ***The salivary glands are innervated by the parasympathetic nervous system***

Parotid:

- Prone to develop infections
- Anatomy: Facial nerve separates the deep from the superficial fibers; angle of mandible separates the parotid.

Note: 3 most commonly injured nerves in the Submandibular region (e.g surgery):

1. Lingual Nerve
2. Marginal Mandibular Nerve
3. Hypoglossal Nerve

Viral infections:

- Mumps: caused by paramyxovirus → 25% bilateral, occurs in children. Treatment is rehydration, rest, anti-analgesia, isolation.
- **HIV: any patient with a bilateral, Cystic, parotid mass you should rule out HIV. (IMP)**

Acute Sialoadenitis:

- Parotid gland most commonly involved
- Risk Factors: Immunosuppression, trauma, dehydration, debilitation.
- Migration of bacteria due to dyhydration.
- Common causative organism is Staphylococcus Aureus.
- Always treated medically. IMP → REHYDRATE the patient.

Sialolithiasis:

- Most commonly in the submandibular glands (Wharton's ducts) due to the following:
 - Antigravity of the duct (running against gravity)
 - Angulation over the muscle (mylohyoid)
 - Secretion composed of calcium and phosphate
 - Mucous consistency (viscous and alkaline secretion)
- If stone <1cm → locally excised in the clinic.
- If stone >1cm → remove the gland with the stone and duct.

Tumors

Salivary Gland

- Rule of the 80% is used in the parotid tumors.
 - 80% of parotid tumors are benign
 - 80% of these benign tumors are Pleomorphic adenoma.
- Rule of size. (Size is indirectly proportional to aggression)
 - The larger the gland → benign
 - The smaller the gland → malignant
- Most common benign salivary gland tumors are: 1) Pleomorphic adenoma (parotid). 2) Wharton's duct tumor (submandibular).
- Treatment of Pleomorphic Adenoma is Superficial Parotidectomy. Why surgery??
 1. FNA → least accurate in head and neck tumors.
 2. Risk of malignant transformation (3-5%). The longer the duration the higher risk and progression of transformation.
 3. Cosmetic reasons.

Malignant Parotid Gland Tumors

- Mucoepidermoid
- Adenoid Cystic

- Do CT scan with contrast and FNA.
- Treatment of malignant parotid gland tumors:
 - Low grade → superficial parotidectomy
 - High grade → Total parotidectomy, neck dissection, & post-op radiotherapy.

Submandibular Malignant tumors:

- adenoid cystic.
- Treatment: submandibular gland excision.

Complications of Surgery (Parotid)

- **Frey's syndrome:**
 - The patient sweats while eating.
 - Due to cutting the parasympathetic nerves (auriculotemporal nerves) during surgery → so the innervation will be provided by the sympathetic nerves → sweating.
 - Diagnosis by start iodine test (Minors test). Iodine is painted on the skin and starch powder is dusted on the face → turn blue/black.
 - Treatment: 1)prevention (most importantly). 2)surgical: flap. 3) nonsurgical: buttox/topical.
- **Facial nerve weakness or paralysis.**

Head & Neck III

Mucosal tumors are divided into unknown primary tumor and known primary tumor.

Known Primary Tumors



We know the site



- 1) Oral Cavity
- 2) Nasopharynx
- 3) Oropharynx
- 4) Hypopharynx
- 5) Larynx



3 categories

Treatment is different for each:

Nasopharynx

Oral Cavity

- 1) Hypopharynx
- 2) Oropharynx
- 3) Larynx

Category 1: Nasopharyngeal Cancer

- Symptoms related to the site or usually presents as a neck mass.
- Site related symptoms include epistaxis, nasal obstruction, etc..
- Nasal obstruction is usually unilateral (associated with epistaxis), and sometimes associated with hearing loss (circulating otitis media is nasopharyngeal cancer until proven otherwise)
- Risk Factors:
 - Epstein Barr Virus
 - Genetic basis
 - Nitrosamines.
- Most common type is Squamous Cell Carcinoma
- Treatment: *No rule for surgical treatment. There are 4 stages:
 - Stage 1 and 2 → Radiation
 - Stage 3 and 4 → Radiation + Chemotherapy

Category 2: Oral Cavity Cancer

- Most common is Squamous Cell Carcinoma.
- Smoking is the most important risk factor, Alcohol, Human Papillomavirus 6 and 11, and poor dental hygiene.
- Symptoms: neck mass or local symptoms related to site (pain in the tongue, dysphagia etc)
- Do CT scan and biopsy for diagnosis.
- Treatment:
 - Early → Surgery **Or** radiation
 - Late → surgery + radiation **Or** chemotherapy + radiotherapy.
 - **Surgery is preferable due to better results!! (IMP)**

Category 3: Oropharynx, Hypopharynx, & larynx

- Symptoms are usually related to the site (dysphagia, difficulty in swallowing, hoarsness)
- Gastroesophageal Reflux Disease is an important association.
- Most common type is Squamous Cell Carcinoma.
- Do CT and biopsy.
- Treatment: “just like oral cavity tumors” except surgery isn’t the best option
 - Early → surgery **Or** radiotherapy
 - Late → surgery + radiotherapy **Or** chemotherapy + radiotherapy
 - **Best option here is medical (Chemo + Radiotherapy) and not surgical!!**