

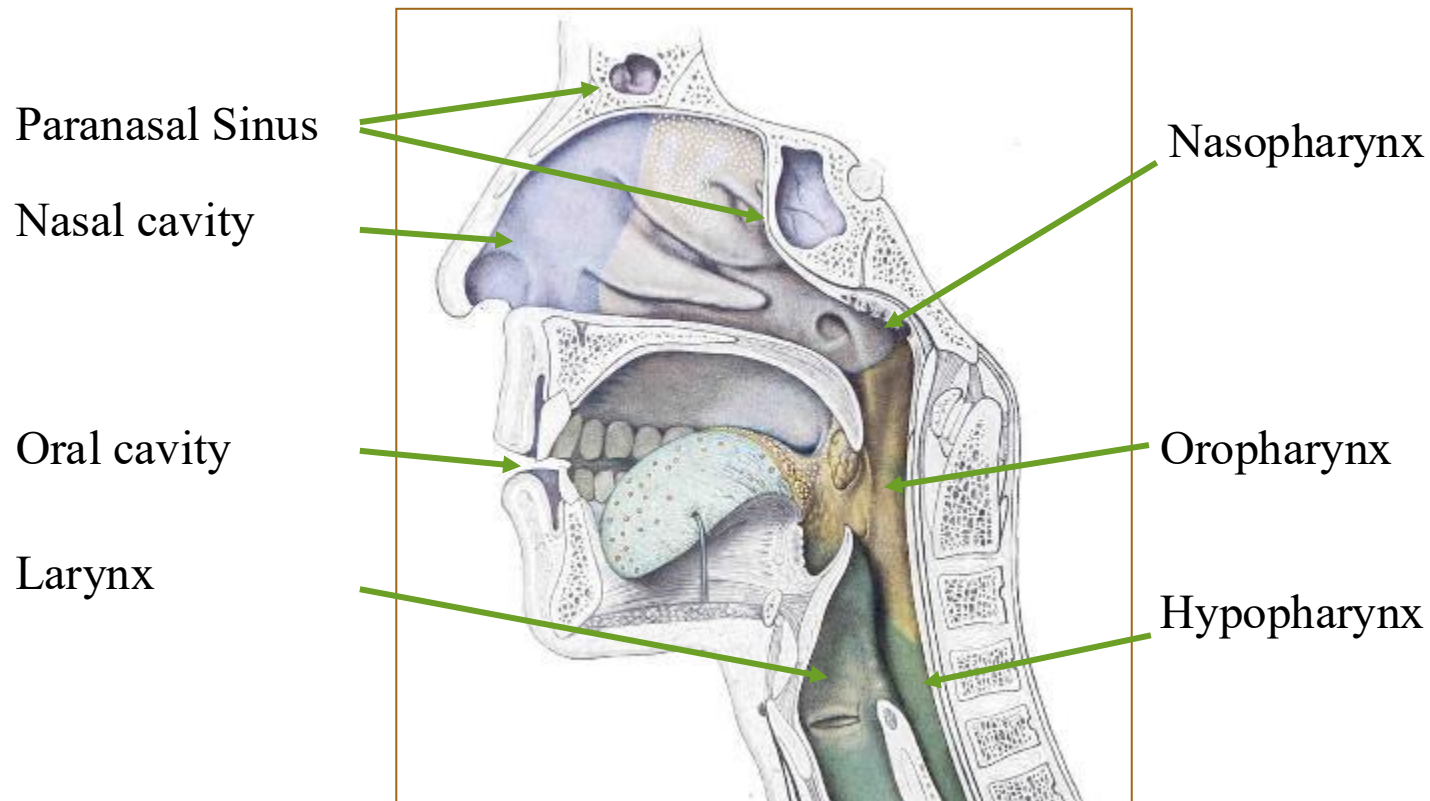


Head and neck cancer

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ENT and Head and Neck Surgery, CUSL
22-11-2025

Head and Neck Cancer



Head and Neck Cancer

- **Oral cavity**
- **Oropharynx**
- **Larynx**
- **Hypopharynx**
- **Nasopharynx**



Cancer of the upper aero-digestive tract

- **Salivary glands**
- **Nasal and paranasal sinus**
- **Ear**
- **Thyroid gland**= in the neck, but included in endocrine tumors

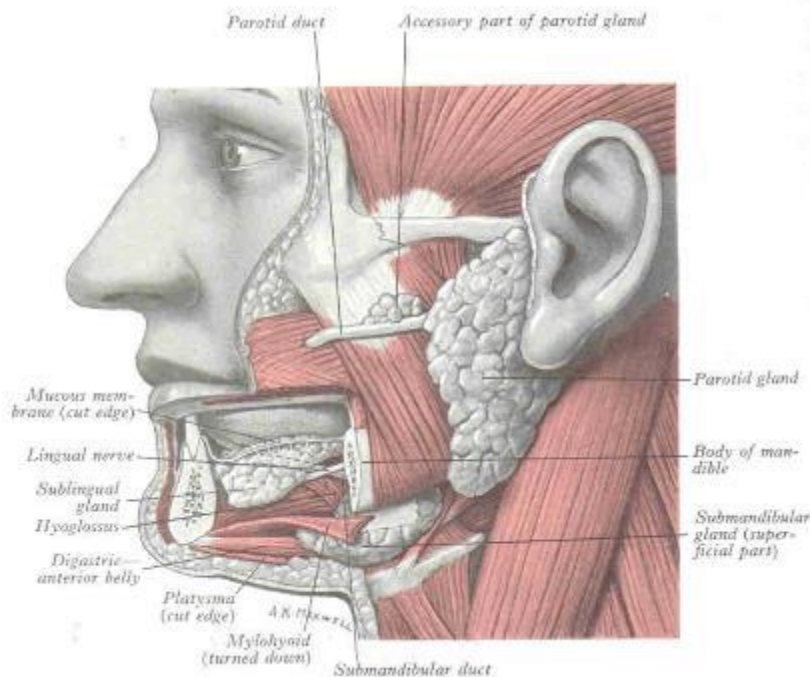
Head and Neck Cancer

Presentation

- I. Rare cancers
- II. Thyroid cancer
- III. Upper aero-digestive tract

I. Rare Cancers

Salivary Gland Tumor



- Salivary tumors 7% of head and neck tumors
- Parotid tumors 10x more common than submandibular and 100x more common than sublingual
- Parotid 80% benign (Whartin, pleiomorphic adenoma)
- Submandibular 50% malignant
- Sublingual majority (65-88%) are malignant
- Equal incidence between sexes

WHO 5th edition: 15 different benign and 21 malignant subtypes

Salivary Gland Tumor

Benign Tumors

- Pleomorphic Adenomas
- Cystadenolymphoma (Whartin's tumor)

Malignant tumors

- Parotid – mucopidermoid most common
- Submandibular and minor salivary – adenoid cystic most common.
- Metastatic disease involving parotis (lymphatic spread from skin, ...)

WHO 5th edition: 15 different benign and 21 malignant subtypes

Clinical presentation

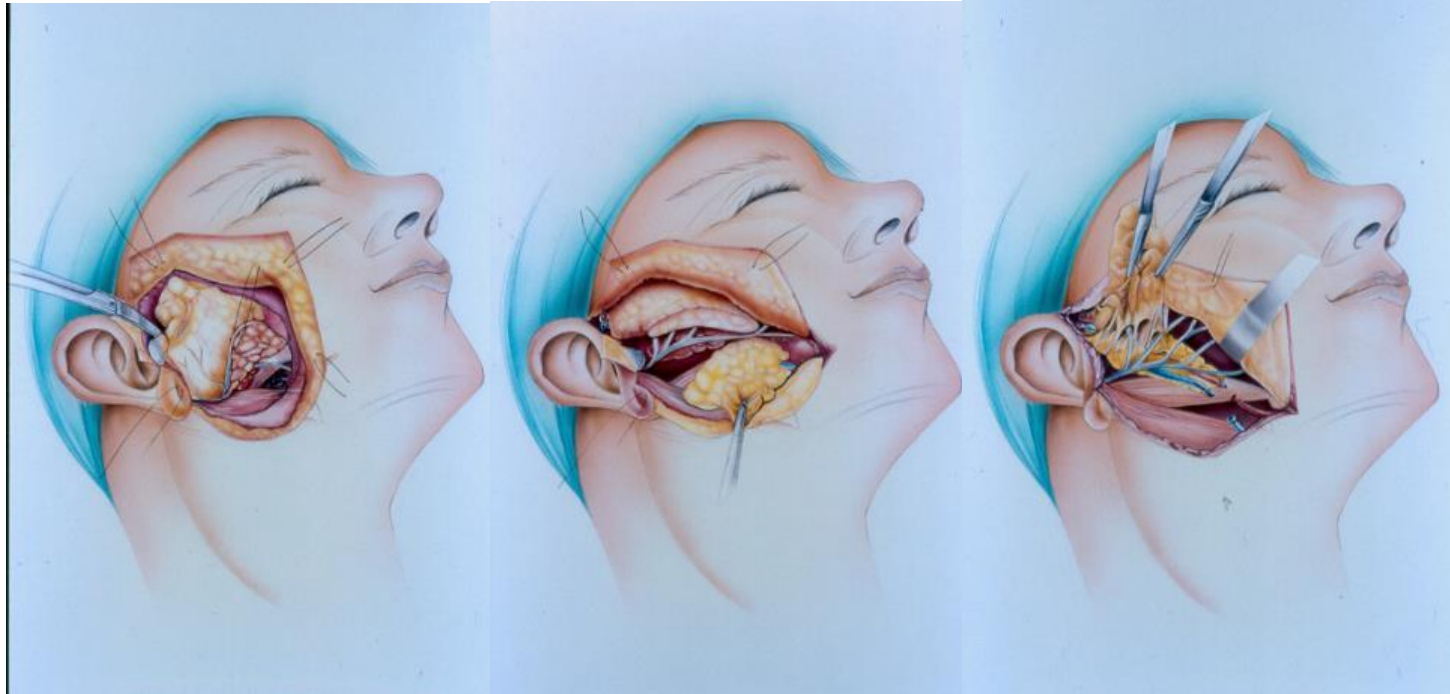
- Asymptomatic mass
- Cranial nerve palsy – inability to move one side of face, one shoulder, one side of tongue.

Evaluation

- Trismus – to evaluate pterygoid involvement
- CT/MRI
- FNA in parotid tumors 90% sensitive and >95% specific: benign or malignant
- Never perform incisional or excisional biopsy

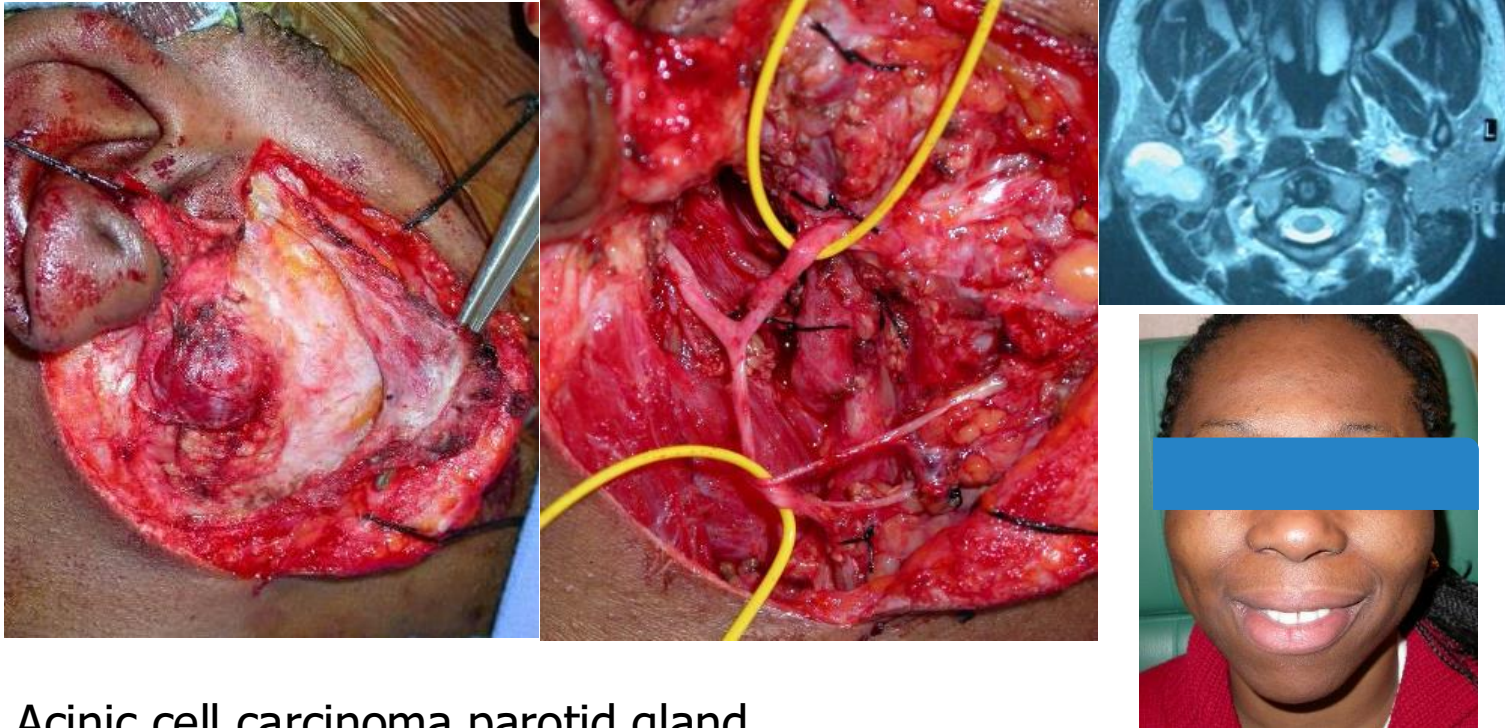
Treatment: parotidectomy +/- ND

Treatment: parotidectomy



Never perform piecemeal excision in an attempt to preserve facial nerve

Treatment: parotidectomy



Acinic cell carcinoma parotid gland

Paranasal sinus and nasal cavity

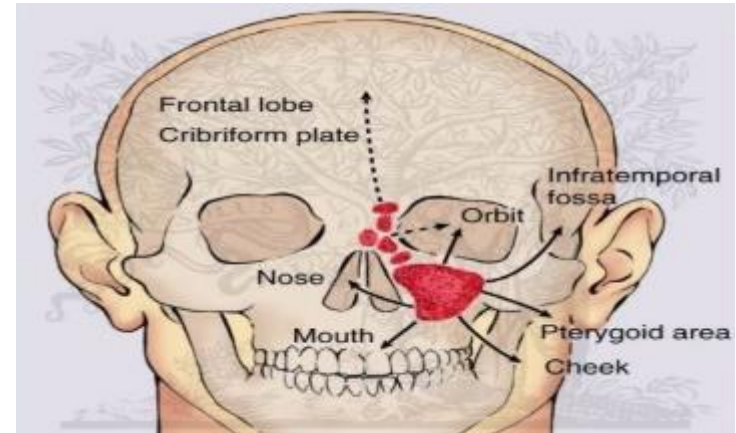
Generalities:

- Maxillary sinus most commonly involved, followed by ethmoid and frontal sinus
- SCC-most common histological type
- Adenocarcinoma –common in wood workers (hardwood dust)
- Cases of transformation of inverted papilloma, especially in HPV high grade type

Epidemiology:

- <1% of all carcinoma
- 0.5-1/ 100000/an
- Mean age: 55
- Male/femal:2/1

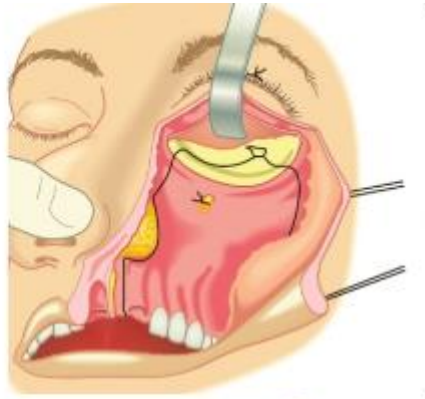
Clinical features:



Treatment: surgery+/-induction
chemotherapy+/- neoadjuvant
radiotherapy

Rare Cancers

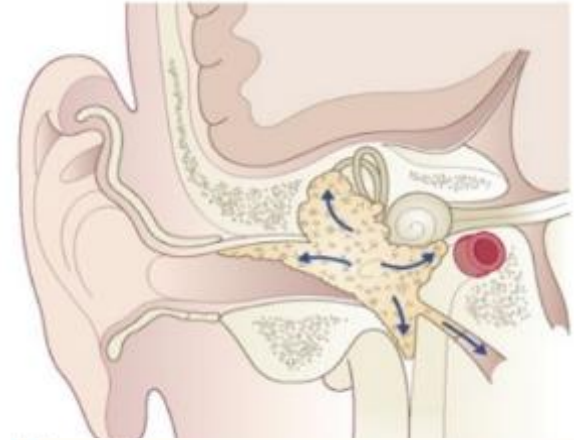
Paranasal sinus and nasal cavity: external approach or endoscopic approach for limited disease



Rare Cancers

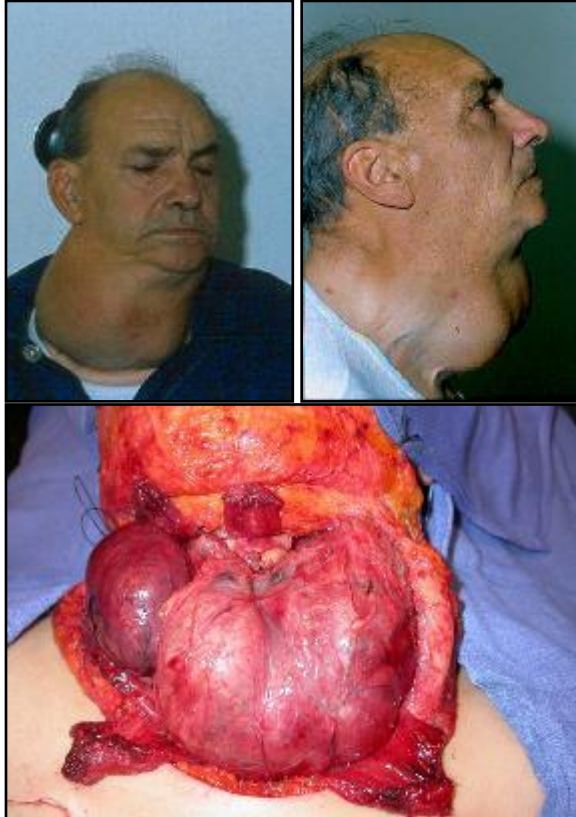
Change in pattern: may be only clue
Growth
Pain
Discharge
Deteriorating hearing
Facial paralysis, hemi facial spasm
Lower cranial nerve palsy
Trismus
Lymphadenopathy

Differential diagnosis: Otitis Externa,
COM



Therapy: en bloc resection+/-parotidectomy+/- radiotherapy

II. Thyroid cancer

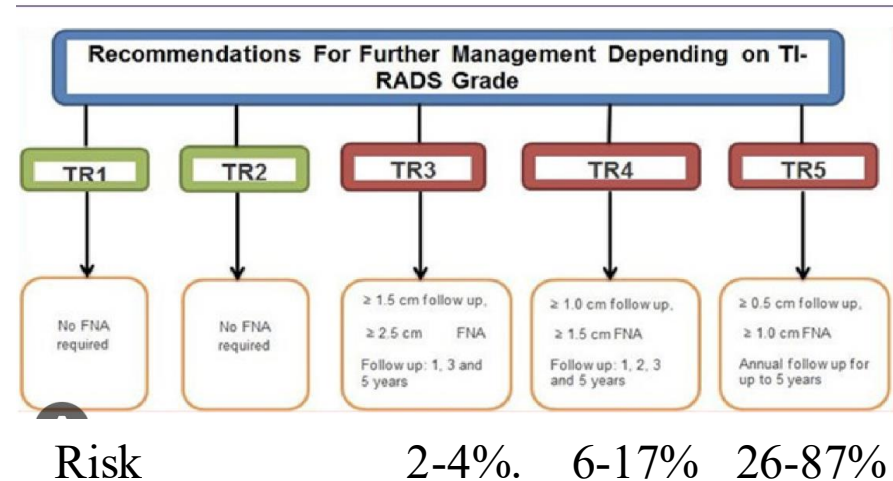


Benign Goiter or thyroid cancer?

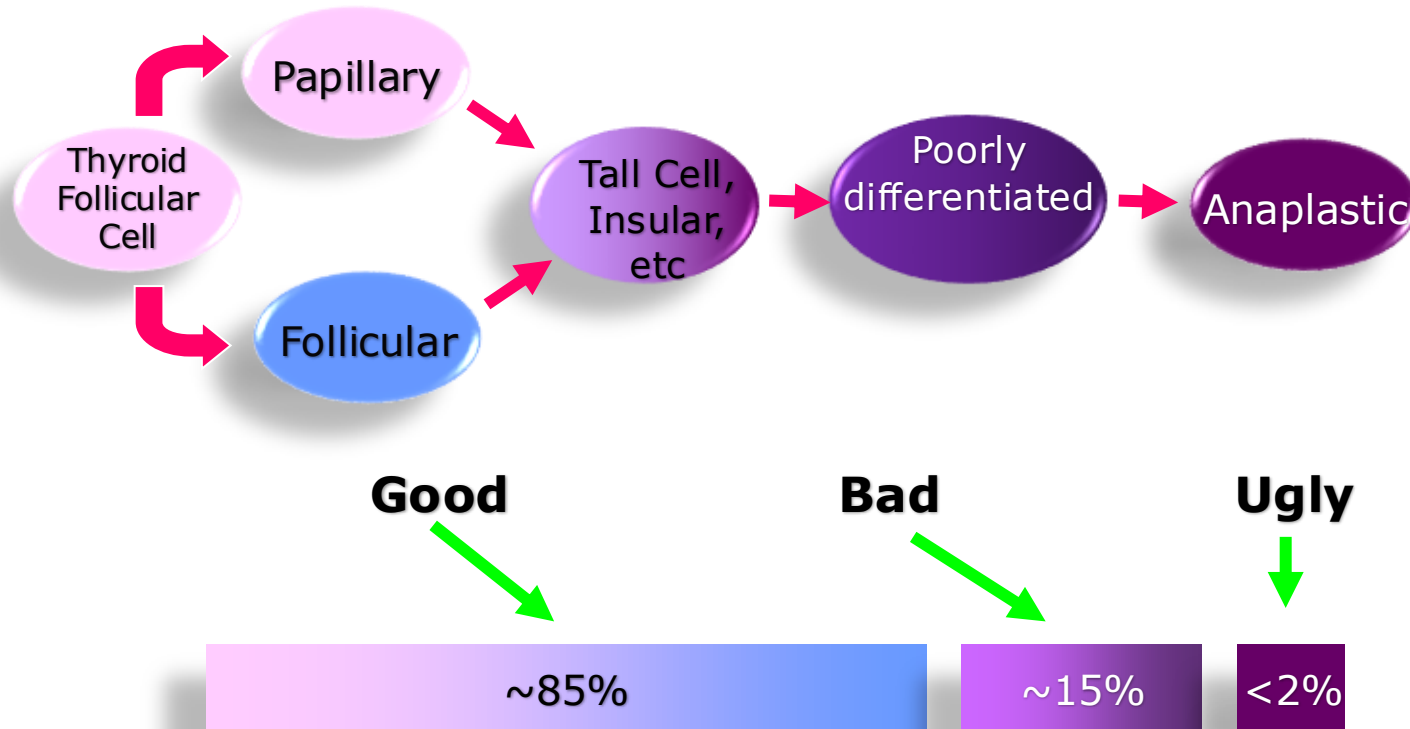
Signs of malignancy

- rapid progression
- vocal fold palsy
- neck nodes
- suspect echographic features TI-RADS

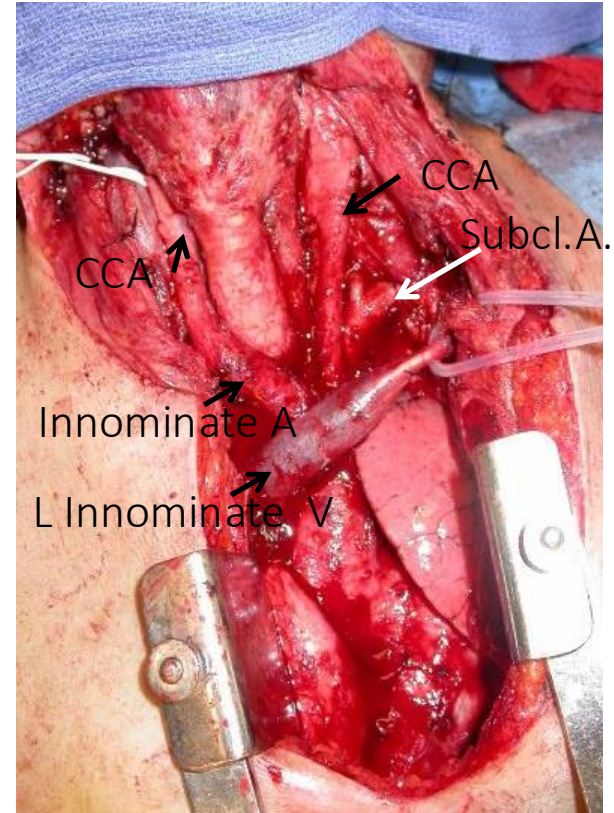
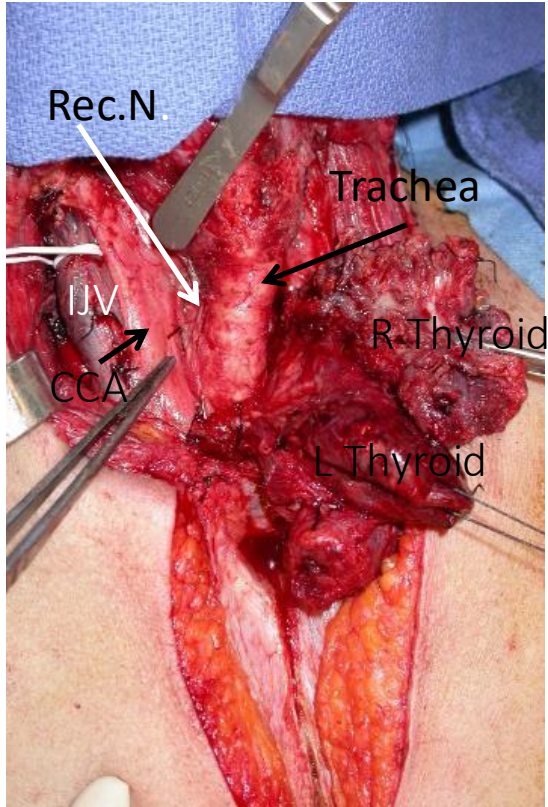
FNAC



II. Thyroid cancer

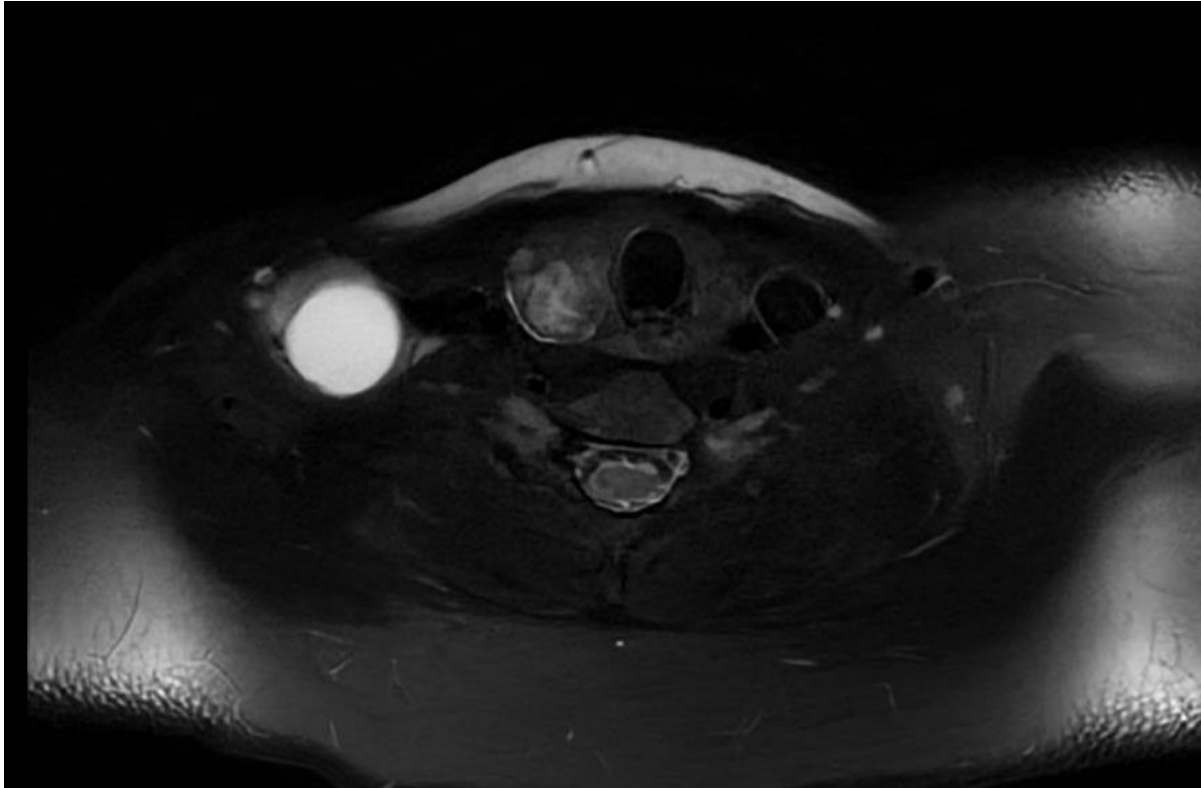


II. Thyroid cancer



Extended surgery and radioiodine +/- radiotherapy

Clinical case



24 years old girl

Mass of the
supraclavicular region
since 6 months

What would you do?
-Ultrasound and FNA?
-Pet-CT
-Antibiotics
-Others

III.Upper aerodigestive tract

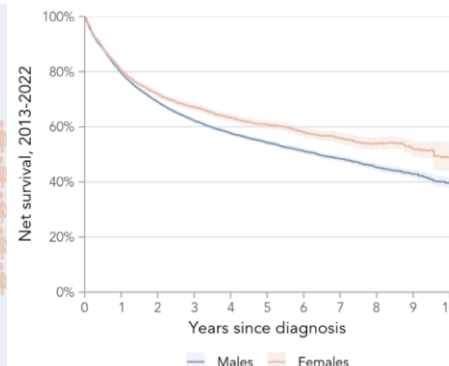
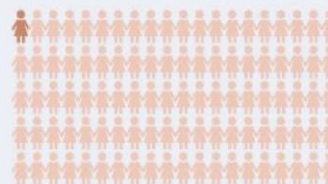
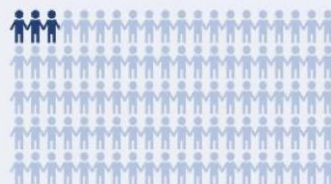
- 6th most common cancer worldwide
- Squamous cell carcinoma: 90%
- Oral cavity is the 1st most common site
- Larynx is the 2nd most common site

Belgium

Key facts

- **5th** most common cancer in males
- **9th** most common cancer in females
- **2,721** new diagnoses in 2022
- **679** deaths due to H&N cancer in 2021
- 5-year net survival of **58.0%**

Lifetime risk (0-84 years)



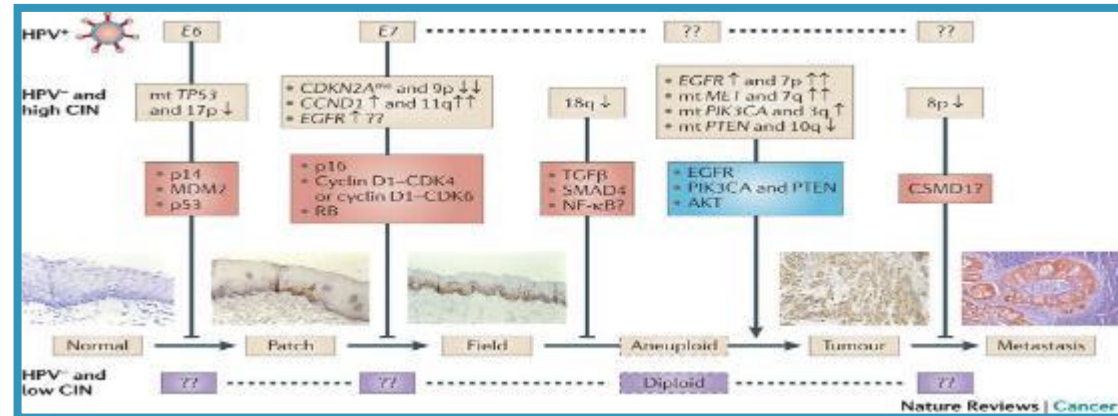
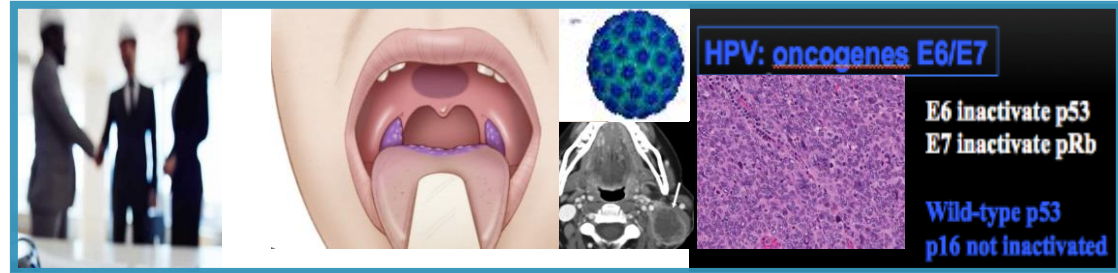
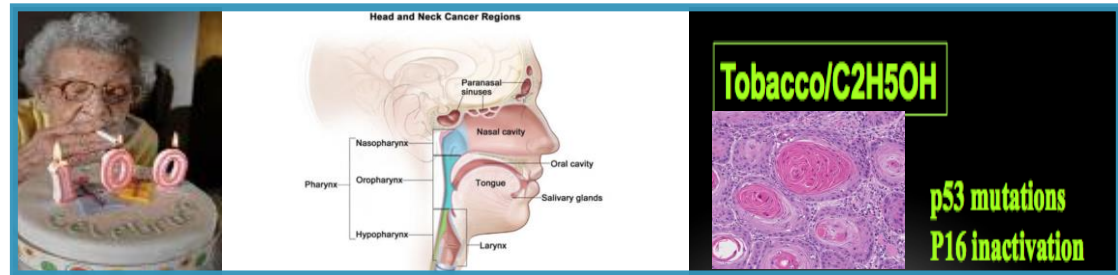
Upper aerodigestive tract

Risk Factors

- Prolonged use of tobacco and excessive alcohol use = primary risk factors
- The two substances together have a synergistic effect on the mucosa
- 90% of patients with head & neck cancer have a history of combined use
- Virus: Human Papilloma Virus and EBV
- Prior history of head and neck irradiation



HPV+ & HPV- Squamous Cell Carcinoma Two distinct diseases



Particular case: nasopharynx carcinoma

Ethnic background: Asian and North Africa people

Age: median age is 50 but occurs also in young people

Nasofibroscope: frequently located in Rosenmuller fossa

Histology: Generally undifferentiated SCC

Ethiology:

1. Genetic: HLA locus
2. Virus: EBV
3. Environment: salted fish (nitrosamin, wood dust, etc)

Presentation: upper neck swelling >50%, epistaxis, hearing loss, diplopie, neurologic symptoms

Treatment: radiotherapy + chemotherapy in advanced disease



Presentation of HNSCC

Symptoms may include:

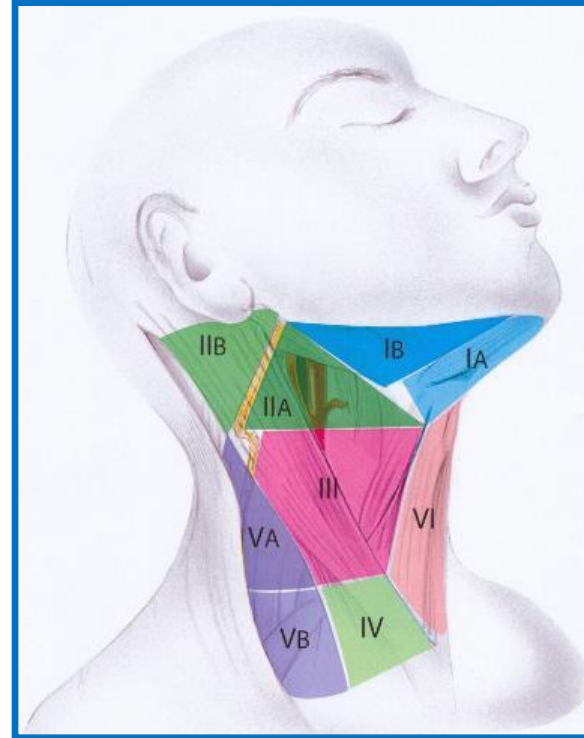
- Dysphagia
- Oral bleeding
- Throat pain
- Ear pain (otalgia)
- Airway compromise
- Hoarseness
- Neck mass
- Epistaxis
- Hearing loss
- Nasal obstruction
- Deafness and tinnitus
- Cranial nerve palsy

> 3 weeks!

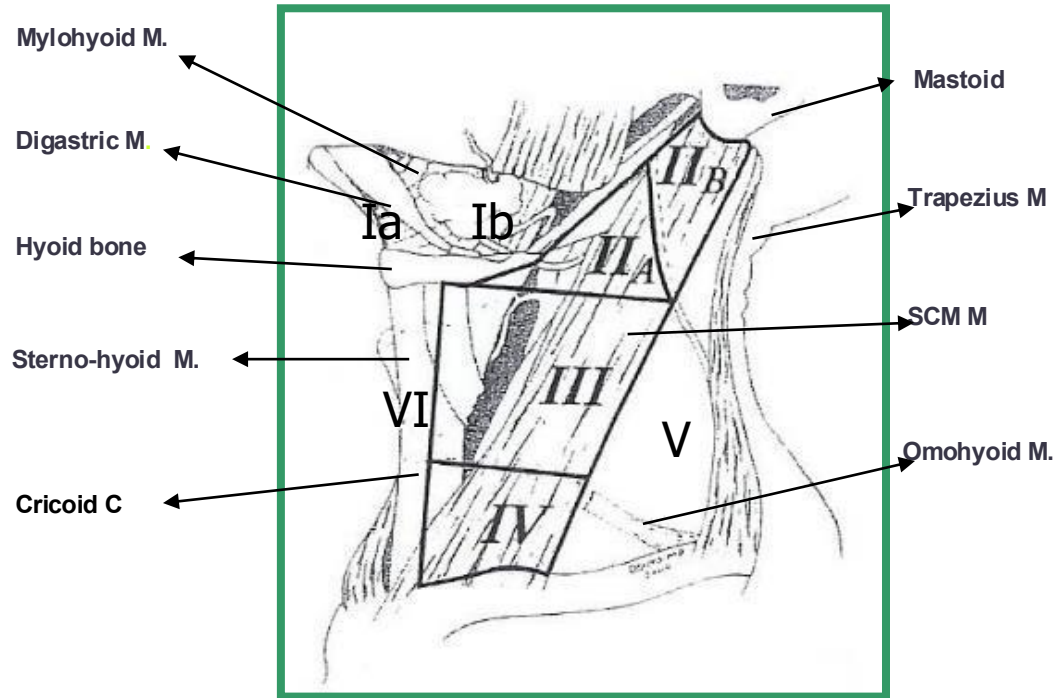
Specifically related to NPC
or
Cancer of the sinus/nose

Neck mass: the level's subdivision

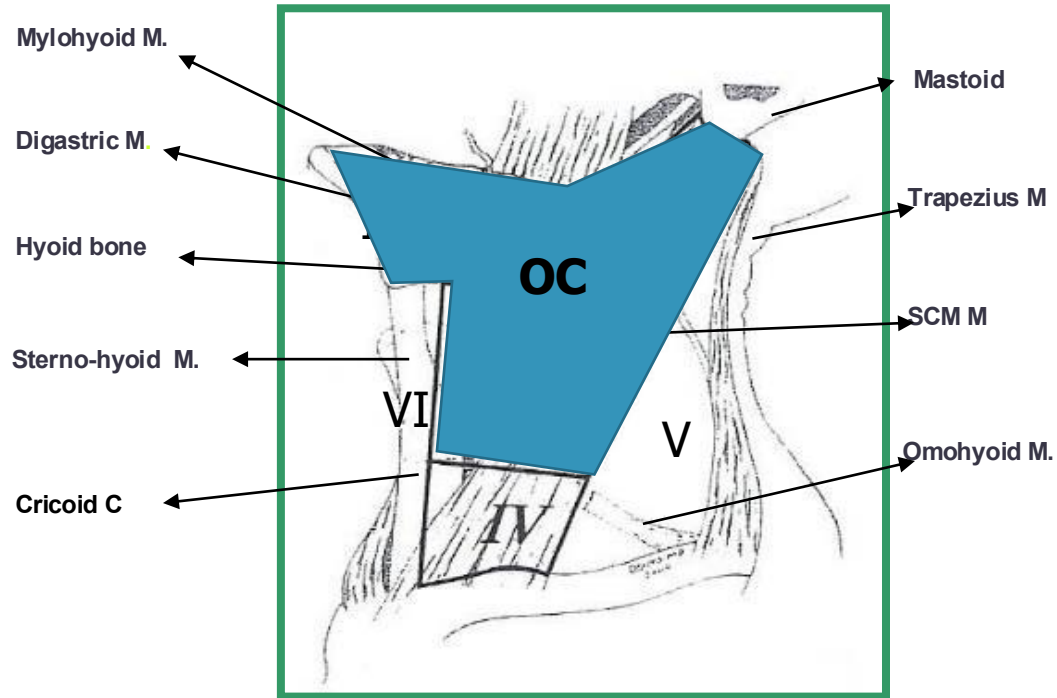
- 1991: American Academy for Otolaryngology Head and Neck Surgery
- 6 levels: anatomic landmarks
- Deep lymph nodes and superficial lymph nodes



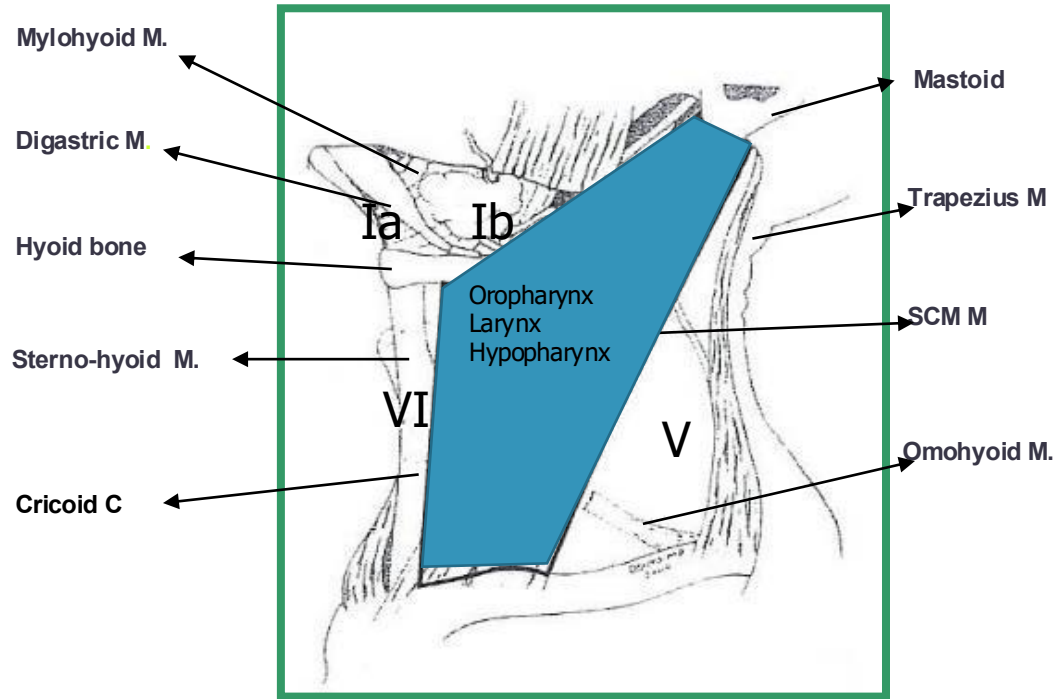
Anatomic landmarks of the neck



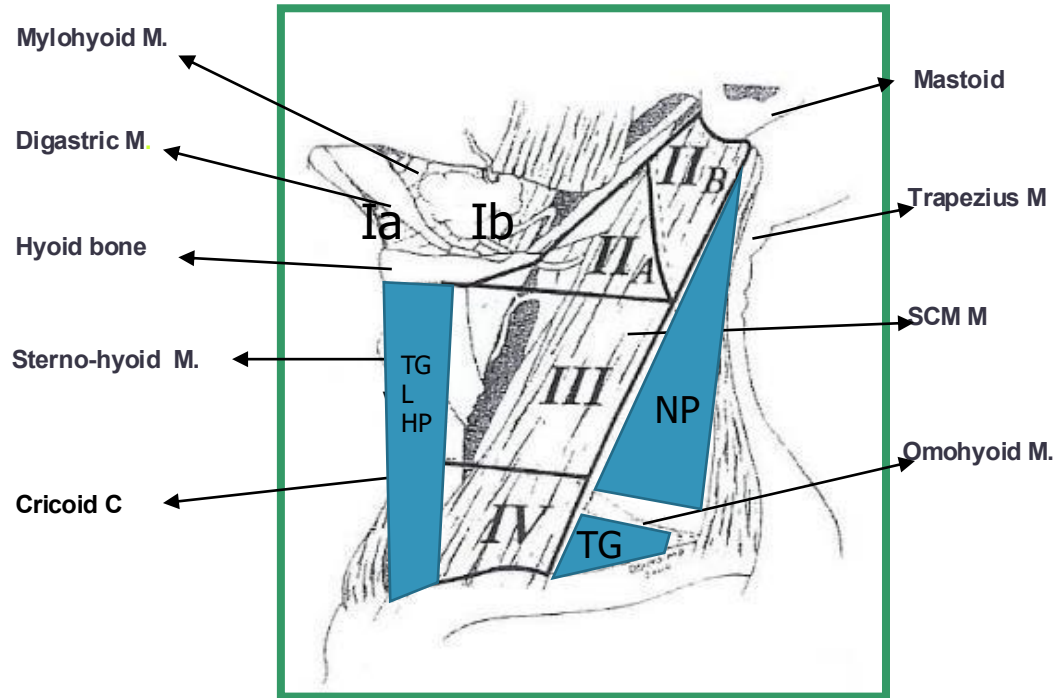
Anatomic landmarks of the neck



Anatomic landmarks of the neck



Anatomic landmarks of the neck



Work-up

Clinical evaluation

- ☐ complete history of the disease
- ☐ weight and weight loss
- ☐ performance status (Karnofsky / ECOG-WHO)
- ☐ fiberoptic examination of H&N mucosa+NBI
- ☐ neck examination
- ☐ drawing of any lesions



Endoscopic evaluation

- ☐ endoscopy under general anesthesia with biopsies of any suspicious site



Objectives:

- Local extension of the tumor
- Second primary
- Exposition of the tumor
- Biopsy

Advanced clinical evaluation

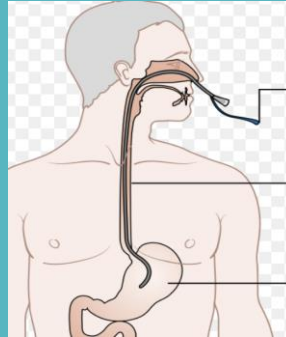
- ❑ dental examination by oral surgeon
- ❑ nutritional assessment
- ❑ others (if required)*

*for NPC: ophthalmologic, audiologic evaluation



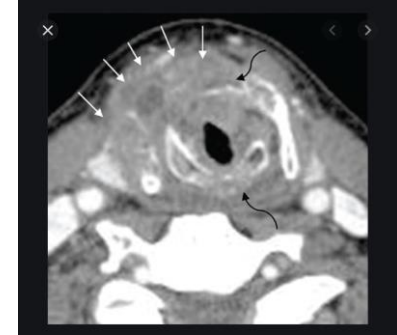
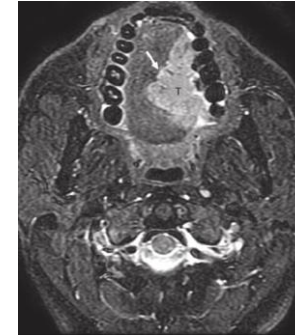
Laboratory tests

- ❑ hemogram, coagulation tests, liver enzymes, kidney function
- ❑ thyroid function: TSH
- ❑ For NPC: endocrine evaluation and EBV



Imaging

- Loco-regional: CT scan or MRI -> infra or suprahyoid lesion
- PET-scan
- Additional examination depending on previous findings



Undetectable primary



Incisional biopsy of a lymph node metastasis from an head & neck cancer is contra-indicated!

Importance of FDG-Pet and endoscopy with multiple biopsies +/- tonsillectomy or base of tongue resection

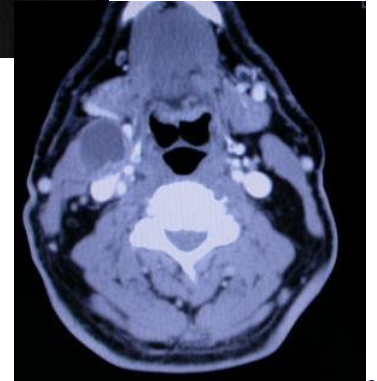
Ask for p16 staining and EBV marker (EBER)

Sometimes same presentation as branchial cyst



Lymph node metastasis in the neck

Sometimes same presentation as branchial cyst



The next step

Work-up procedure



TNM staging

Why using TNM?

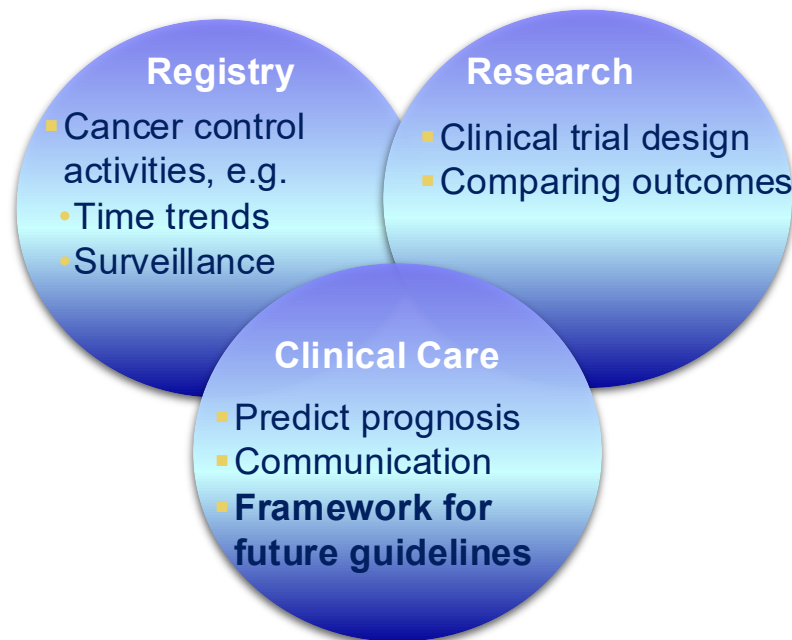
How does it work?

Baseline anatomic consideration for each
subsite to establish TNM

Next step: the TNM

Tumor board meeting: case by case discussion about each patient

Surgeon
Radiotherapist
Oncologist
Radiologist
Pathologist
CSO



Dietician
Physiotherapy
Speech therapist
Dentist
Social worker
Research group

Simplified TNM staging system

T1:	< 2cm
T2:	2-4 cm
T3:	> 4 cm
T4:	Invasion of adjacent structure

N1:	One single lymph node, <3cm
N2a:	One single lymph node, 3-6 cm
N2b:	Several ipsilateral lymph node, <6cm
N2c:	Bilateral lymph node, < 6 cm
N3:	Lymph node > 6 cm

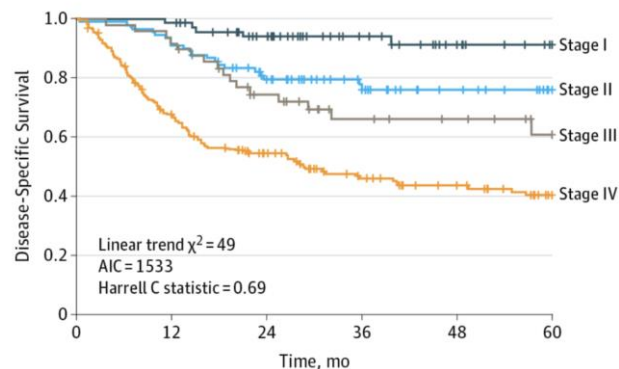
Higher is the T, lower is the prognosis

Higher is the N, lower is the prognosis

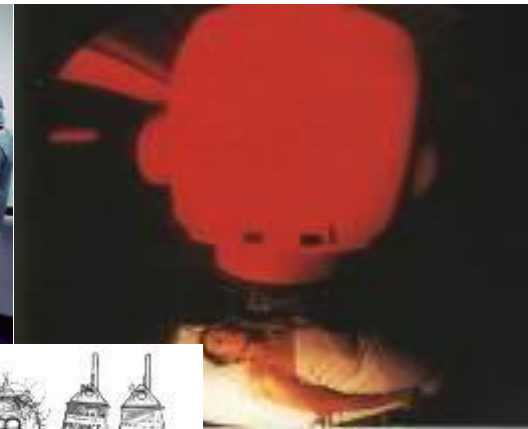
Information for the patient

Staging and prognosis

AJCC staging system



Therapy



- Early Stage: stage I-II: **one modality** : surgery or RT
- Advanced Stage : stage III-IV: **multimodality** combination of
-radiotherapy, surgery, chemotherapy and immunotherapy

Depending on tumor localization, neck node status, patient performance status, comorbidities, preferences and functional outcome/sequellae



Role of surgery in HNSCC

- Work up, TNM staging and decision
- Surgery
 - Primary surgery
 - Salvage surgery
- Follow up

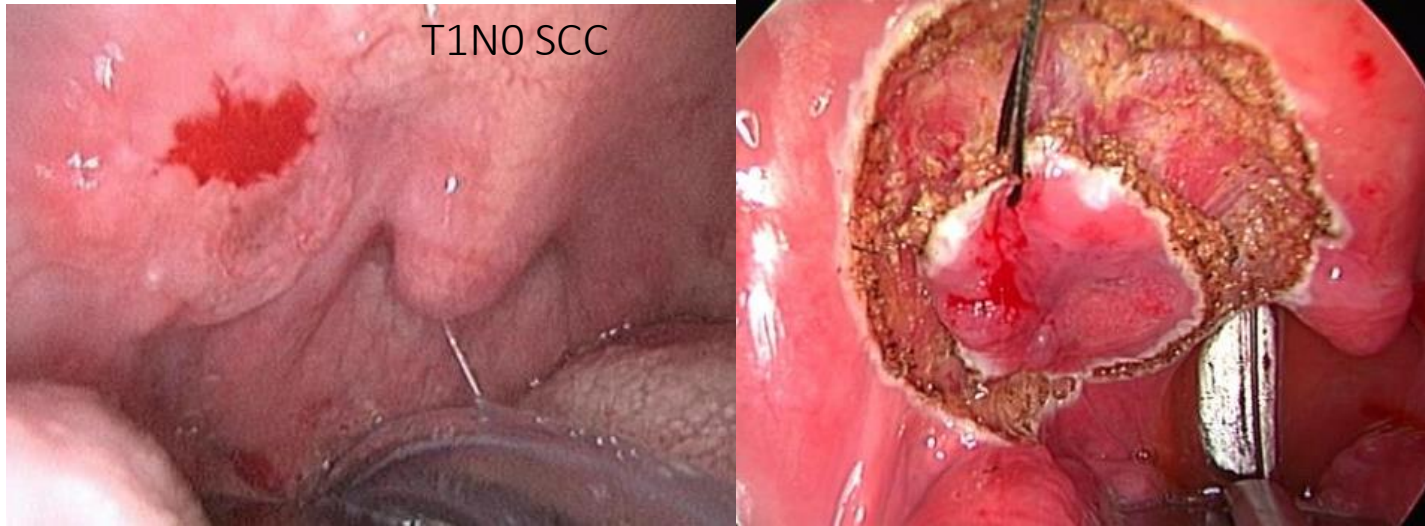
Primary surgery in HNSCC

Early tumors (T1-T2, N0-N1)

Resection of the tumor and neck dissection when function-sparing surgery is suitable.

Avoid multiple treatment when only one modality is enough!

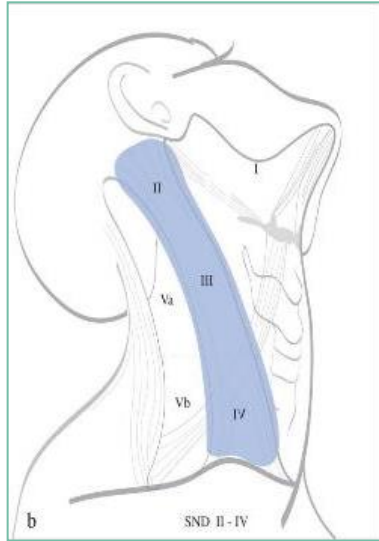
Primary surgery in HNSCC



Treatment: Transoral pharyngectomy + Selective Neck Dissection II-IV

Pathologic results: pT1 pN0. No postop XRT

Surgery on the T AND N



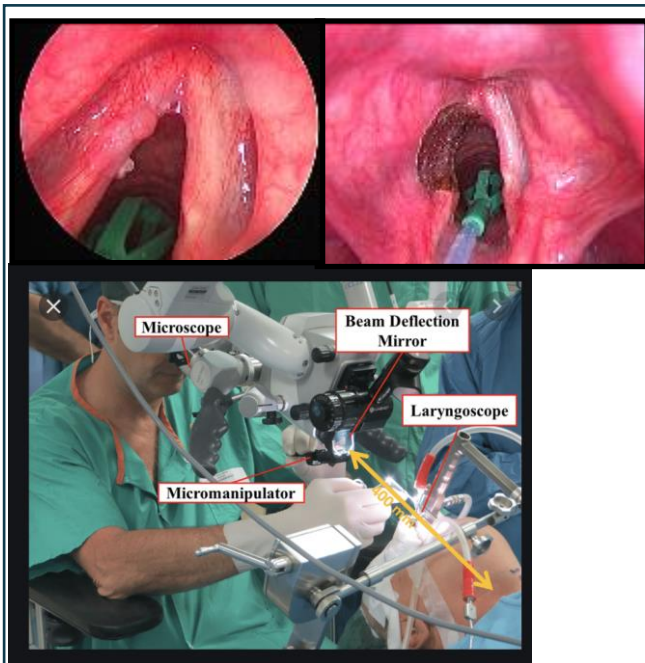
Transoral pharyngectomy +
Selective Neck Dissection II-IV
pT1 pN0. No postop XRT

Treatment of larynx cancer

- Early stages
- Advanced stages

Larynx cancer

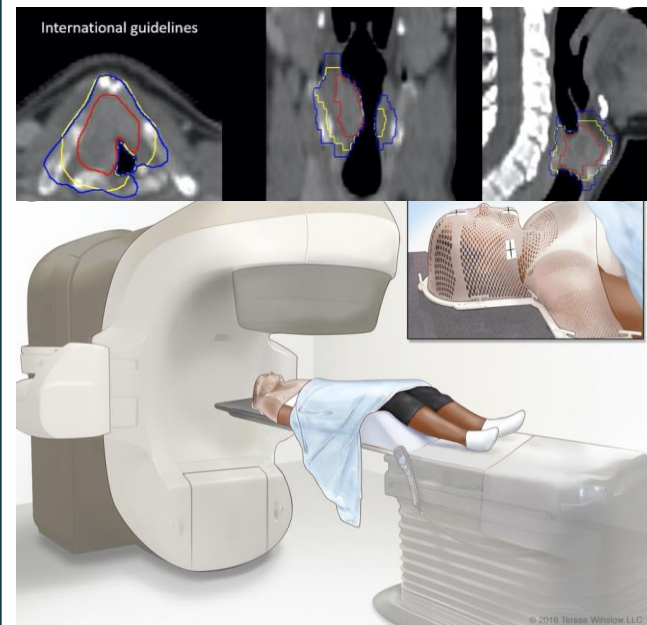
Early stage



Laser CO2 surgery



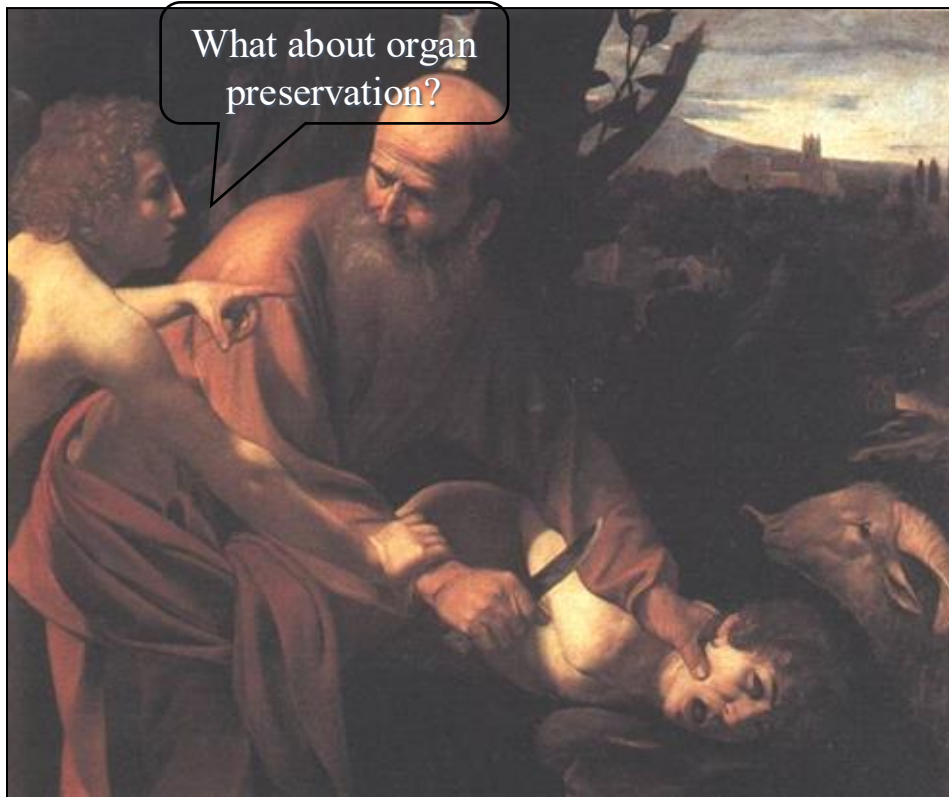
Partial laryngectomy.



Radiotherapy

Larynx cancer

Advanced stage: toward less morbid strategies



YES

IF the organ is
preservable

➔ Radiotherapy and
platinum based
chemotherapy

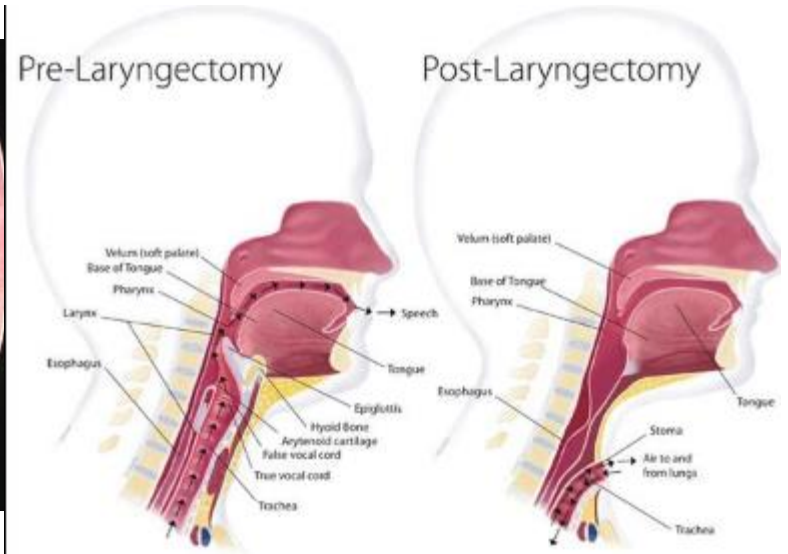
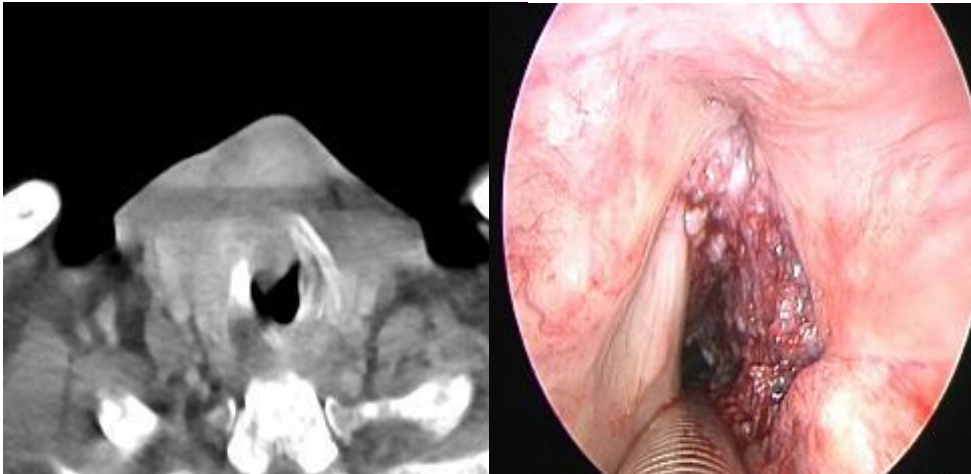
BUT IF NOT

➔ Surgery

Larynx cancer

Advanced stage

Radio-chemotherapy if organe preservation is possible. Otherwise surgery

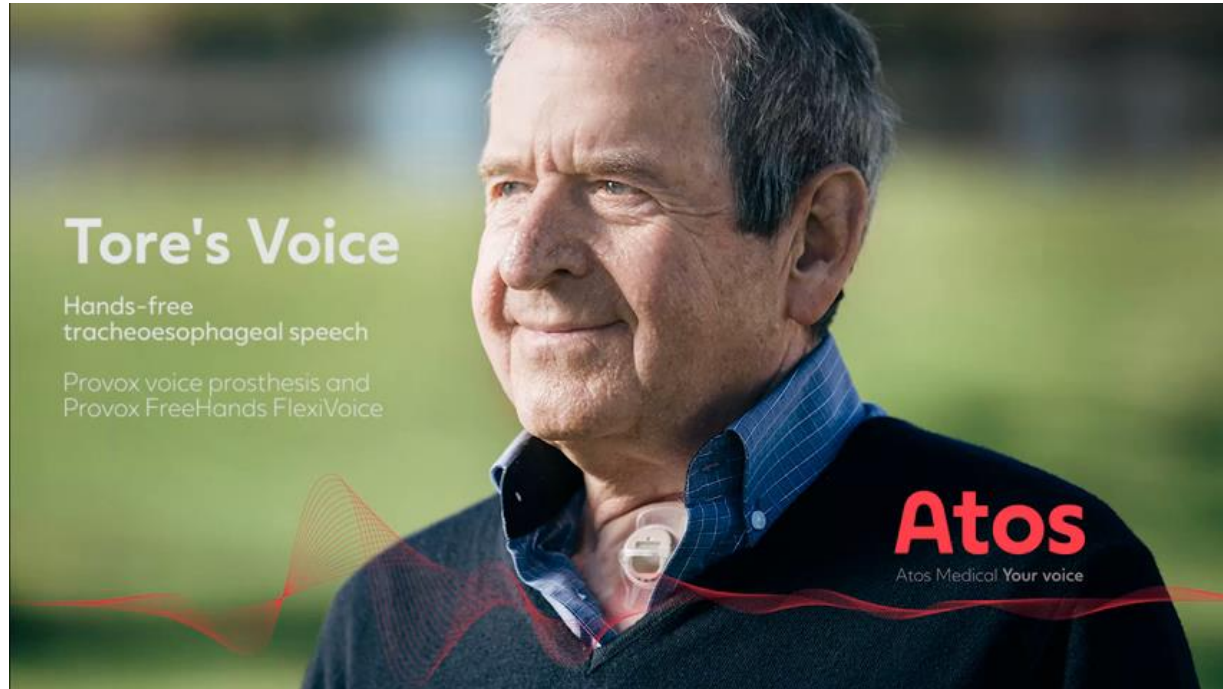


Larynx cancer: function recovery

- Voice prosthesis
- Esophageal speech
- Electrolarynx



Voice Prosthesis: sound



Role of surgery in HNSCC

- Work up, TNM staging and decision
- Surgery
 - Primary surgery
 - Salvage surgery
- Follow up

Salvage surgery: indications

- T1-T2 vs. T3-T4
- Local, regional vs locoregional recurrence.
- Consider:
Resectability? T & N.
Reconstruction: flaps!
- An unresectable tumor before (C)RT is seldom evolving to a resectable tumor after radiation failure!



Recurrence: Salvage Surgery

Higher risk:

- During first 2 years
- In HPV- compared to HPV+ disease
- In advanced stages
- In patients with risk factors
- Increased risk of other cancer types (around 4%)

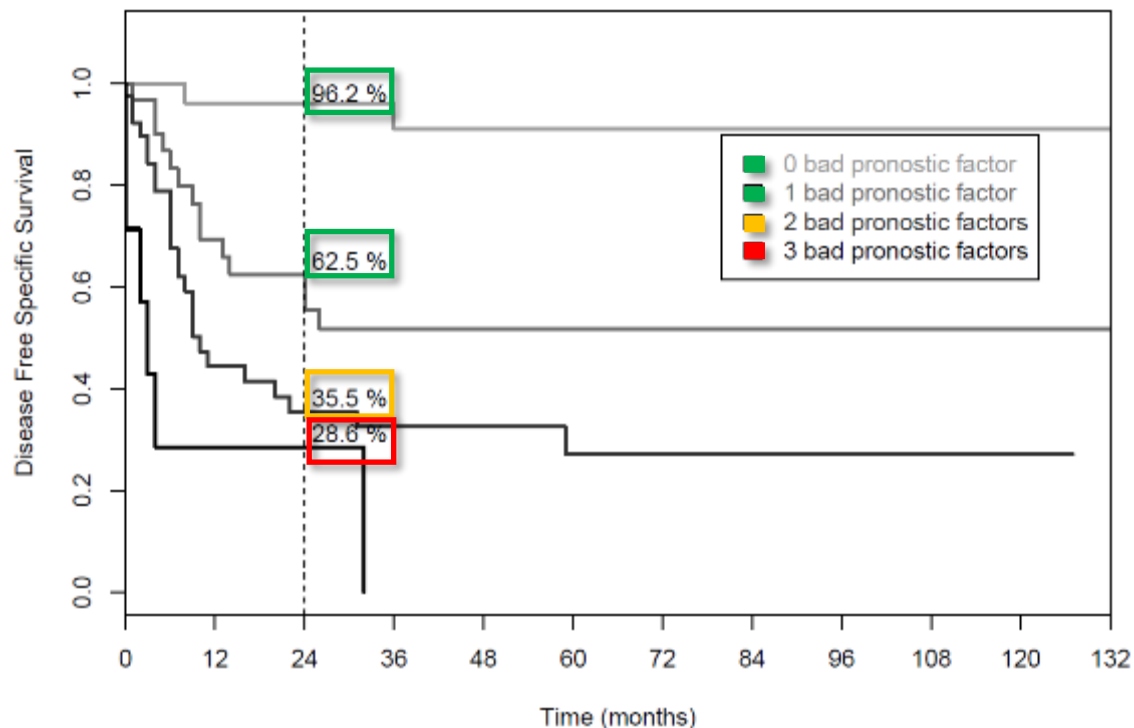
Wide local
excision with
clear margins

Morbidity of the procedure
Functional outcome
Organ mutilation
Postoperative complication rate
Delineation of surgical margins



**What are my chances of cure ? What about my
quality of life?**

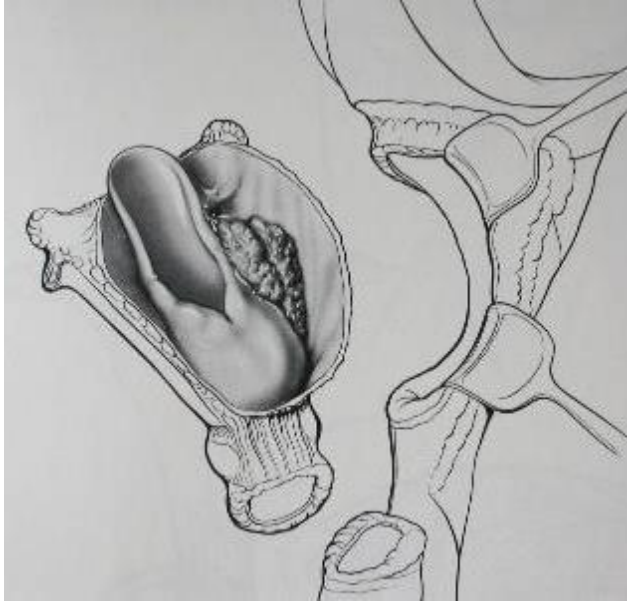
Salvage surgery outcomes



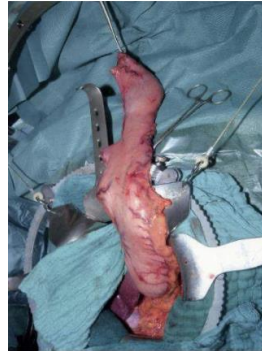
**Preoperative prognostic factors: locoregional failure,
tumor site (larynx vs. non larynx)
initial stage (stage I/II vs. stage III/IV)**

Total pharyngolaryngectomy: recurrence hypopharynx and/or larynx

Options for the reconstruction of total laryngo-pharyngectomy defects

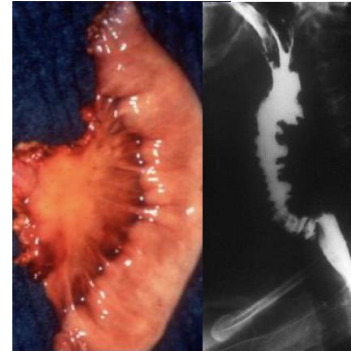


1. Gastric pull-up



Büchler et al. (1996) J
Am Coll Surg 182: 241-

2. Jejunum



3. RFF, ALT



Total pharyngolaryngectomy: recurrence hypopharynx and/or larynx



Treatment in R/M SCC

Chemotherapy (Extreme)
Cetuximab+platinum based
therapy +5-FU

Immunotherapy+/- chemotherapy
Anti-PD-L1



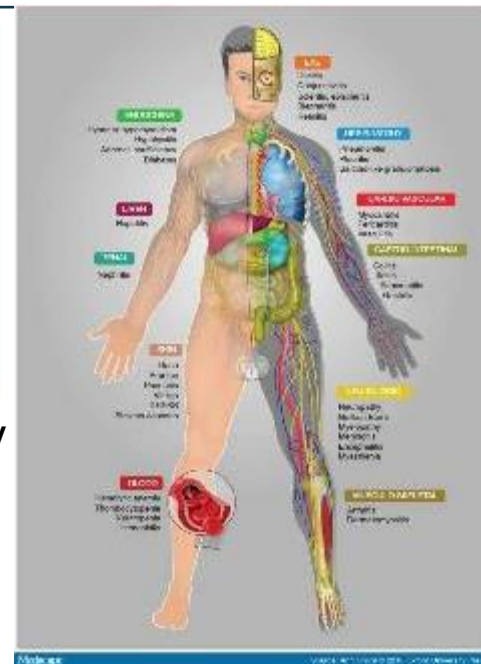
Toxicity Cetuximab:
Rush
Hypomagnesemia
Diarrhea

CPS (Combined Positive Score)

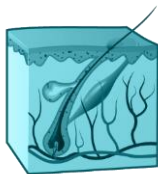
$$\text{CPS} = \frac{\text{Number of PD-L1 stained cells (tumor cells, lymphocytes, macrophages)}}{\text{Total number of viable tumor cells}} \times 100$$

*Reported as a number
(capped at 100)*

>1% in favor of immunotherapy



Treatment in R/M SCC: immunotherapy



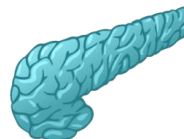
40% with anti PD-1 / PD-L1
mostly G1/2; 2% G 3/4

- Rash reticular or maculopapular
- Itching
- Vitiligo or partial depigmentation
- Other : Stevens-Johnson, neutrophilic panniculitis or sweet syndrome, oral mucositis ...



2% with anti PD-1 / PD-L1
mostly G 1/2; 10% G 3/4 with ipi
1% GI perforation

Colonoscopy for grade 2 only to confirm
Treatment is Prednisone (clipper helpful)
A third grade 3/4 requires Infliximab



THYROID DISEASE

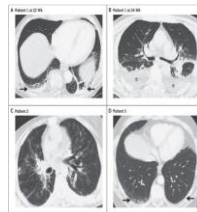
10% with anti PD-1 / PD-L1
Transient hyperthyroidism then hypothyroidism
Hormone replacement therapy, continue IO

HYPOPHYSITIS

5% with anti PD-1 / PD-L1
Hormone replacement therapy, continue IO

ADRENAL INSUFFICIENCY & TYPE 1 DIABETES

have been described is less than 1% of the treated patients



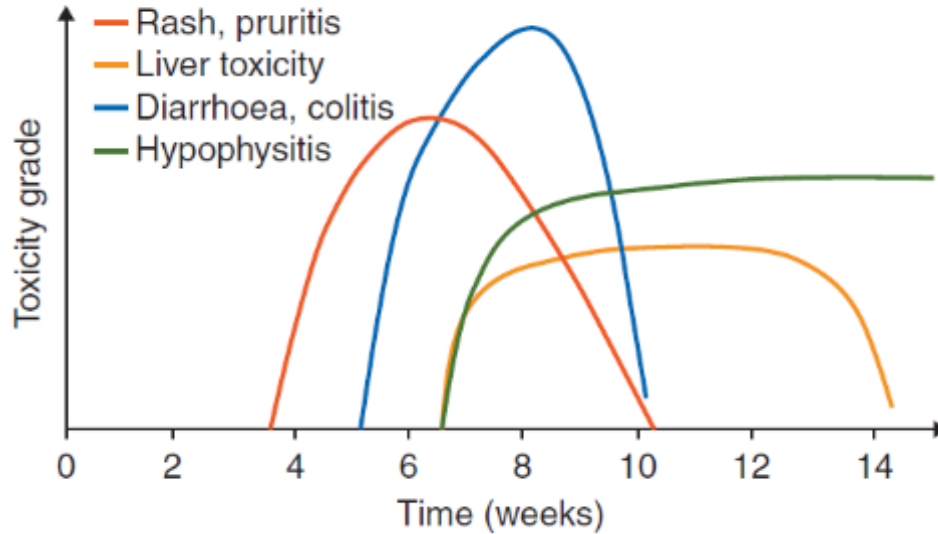
10% with anti PD-1 / PD-L1

mostly G 1/2 asymptomatic
AST/ALT elevations
exclude other etiologies (tumour progression, virus ...)
NO INFLIXIMAB but cellcept (500 mg 2x/d) if refractory to Corticoids



5% with anti PD-1 / PD-L1
Aspecific symptoms
exclude infection/tumor progression

Treatment in R/M SCC: immunotherapy



Time to onset and resolution of occurrence of immuno-related adverse events following Ipilimumab treatment



Treatment in R/M SCC: immunotherapy

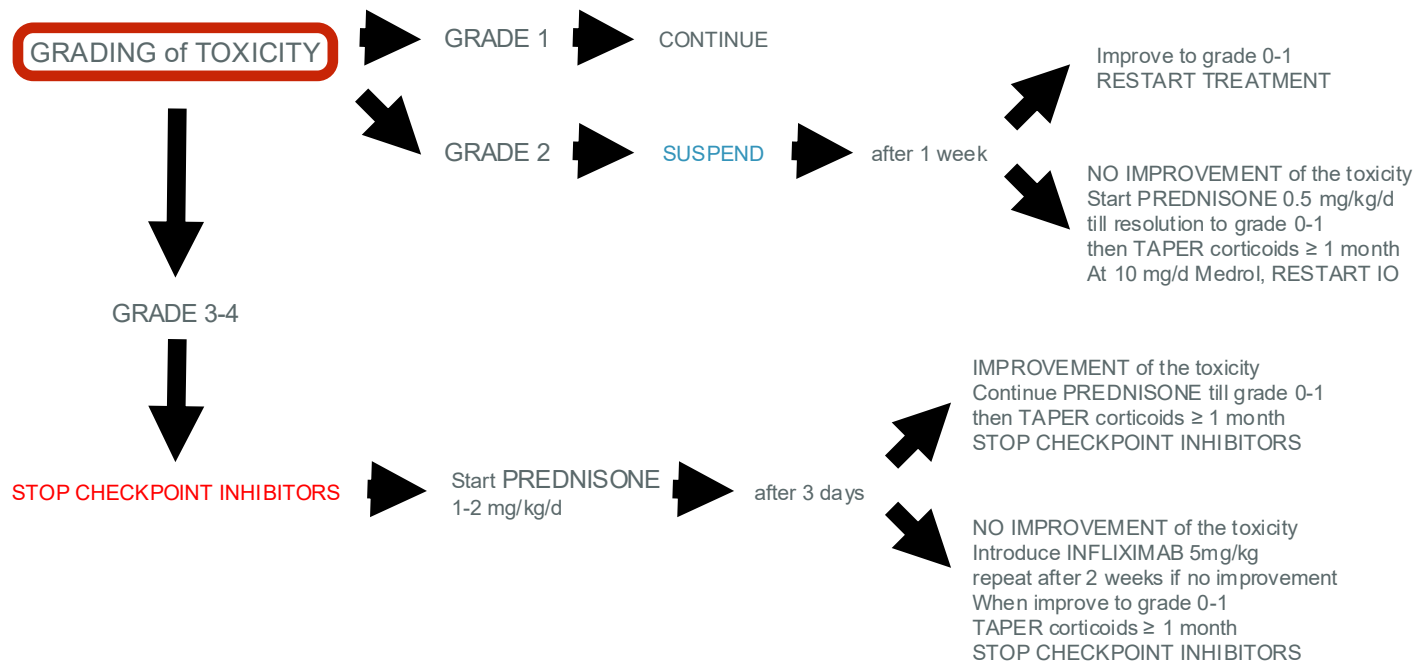
Event	Any Grade n (%)	Grade 3-4 n (%)
Any	35 (58.3)	10 (16.7) ^a
Observed in ≥5% of patients		
Fatigue	11 (18.3)	1 (1.7)
Pruritus	6 (10.0)	0
Nausea	5 (8.3)	0
Rash	4 (6.7)	1 (1.7)
Decreased appetite	4 (6.7)	0
Myalgia	3 (5.0)	0
Of clinical interest		
Diarrhea	2 (3.3)	1 (1.7)
Adrenal insufficiency	1 (1.7)	0
Hypothyroidism	1 (1.7)	0
Colitis	0	0
Hyperthyroidism	0	0
Pneumonitis	0	0

^aAside from fatigue and rash, other grade 3-4 adverse events were aspartate aminotransferase increased, alanine aminotransferase increased, and hyponatremia (n = 2 each) and atrial fibrillation, congestive heart failure, diarrhea, lymphopenia, musculoskeletal pain, and neck abscess (n = 1 each).

Analysis cutoff date: August 6, 2014.

Meta-analyse récente (125 essais cliniques, 20128 patients traités par anti-PD1 ou PDL1): 14% des patients ont au moins 1 effet secondaire de grade 3 ou +

Treatment in R/M SCC: immunotherapy



up to date 2017

!! Beware Corticoids toxicity and long-term immunosuppression !!
Patient education and doctor education very important!!

Trajet de soin

Dépistage / Diagnostic initial

Explorations chez un spécialiste (symptômes > 3 sem)

- Nasofibroskopie/examen clinique
- Biopsie/ponction en consultation si accessible



Bilan d'extension et évaluation préthérapeutique

- Imagerie (CT/IRM et Pet-CT stades avancés)
- Endoscopie avec biopsie sous anesthésie générale
- Évaluation dentaire
- Évaluation de l'état général (biologie, comorbidités)
- Évaluation des facteurs de risques



Réunion Concertation multidisciplinaire (COM)



Annonce du diagnostic et plan de traitement

- Consultation d'annonce médicale
- Consultation paramédicale
- Consultation oncogériatrie (si indiquée)
- Consultation tabacologue (si accord patient)
- Test auditif si indication de chimiothérapie
- Traitement dentaire (si nécessaire)



Traitement

- **Monomodal** : Chirurgie ou radiothérapie (stade pécocce)
- **Multimodal** : radio-chimiothérapie +/- chirurgie, chirurgie et radiothérapie +/- chimiothérapie, immunothérapie néoadjuvante



Soins de support (pendant et après traitement)

- Prise en charge nutritionnelle (sonde, diététique, suivi pondéral)
- Rééducation logopédique (voix, déglutition)
- Incitation à l'activité physique
- Soutien psychologique
- Prise en charge de la douleur
- Suivi bucco-dentaire
- Accompagnement social



Suivi post-thérapeutique

- Consultations régulières multidisciplinaires :
 - Surveillance de la récurrence/second primaire
 - Évaluation des séquelles fonctionnelles
 - Autres cancers
 - Biologie
- Réinsertion sociale et professionnelle
- Suivi à long terme (au moins 5 ans)

Clinical case

Female, 86 years old

Previous history: BCC, peripheric vertigo, hypertension, reflux

History:

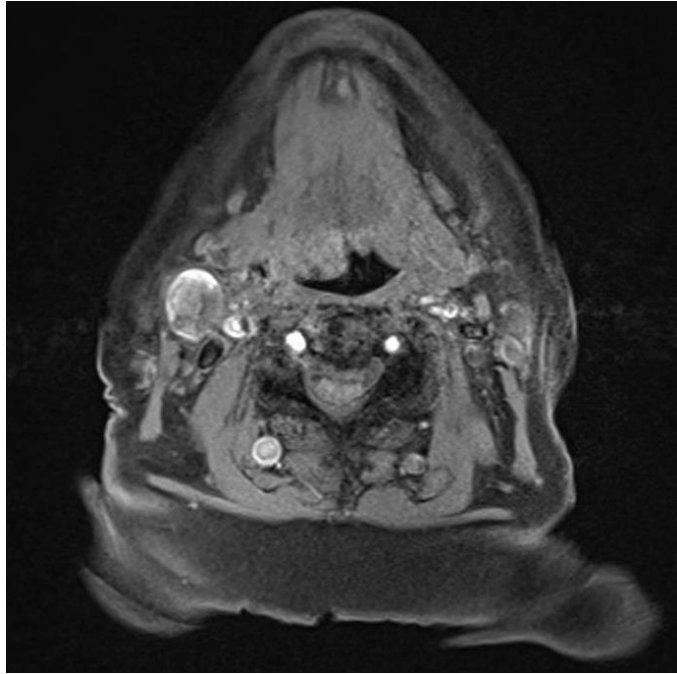
- Dysphagia since 2 months without pain but blocage
- Loss of 4 kg in 1 year
- Examination by a first ENT: normal -> control 2 months later
- Examination by a second ENT: Potential reflux and treatment by IPP
- Examination by a third ENT: Neck mass and slide pain

Clinical case

What would you advise?

- Intensify IPP therapy
- Antibiotics and new consultation 2 weeks later
- ENT consultation
- Imaging by CT or MRI
- US and cytoponction
- Resection of the mass

Clinical case



Treatment?

- No treatment
- Chemiotherapy
- Immunotherapy
- Chirurgie
- Radiotherapy
- multiple treatment options

Oropharynx T2N2bM1 (metastasis in the thorax and abdominal nodes)
SCC, CPS>50

Conclusion

- Different types of cancer in the head and neck area
- Risk factors for SCCHN: HPV, alcohol and tobacco
- Accurate Work-up is important
- TNM classification has to be done
- One treatment modality in early stages if possible
- Multiple treatment modalities for advanced stages
- Treatment choice depends on TNM, patient performance status, functional and long-term outcomes
- FU to detect recurrence or new primaries is important
- FU of secondary treatment effects under therapy
- Eradication of risk factors is important

Merci pour votre attention