



Head and neck cancers

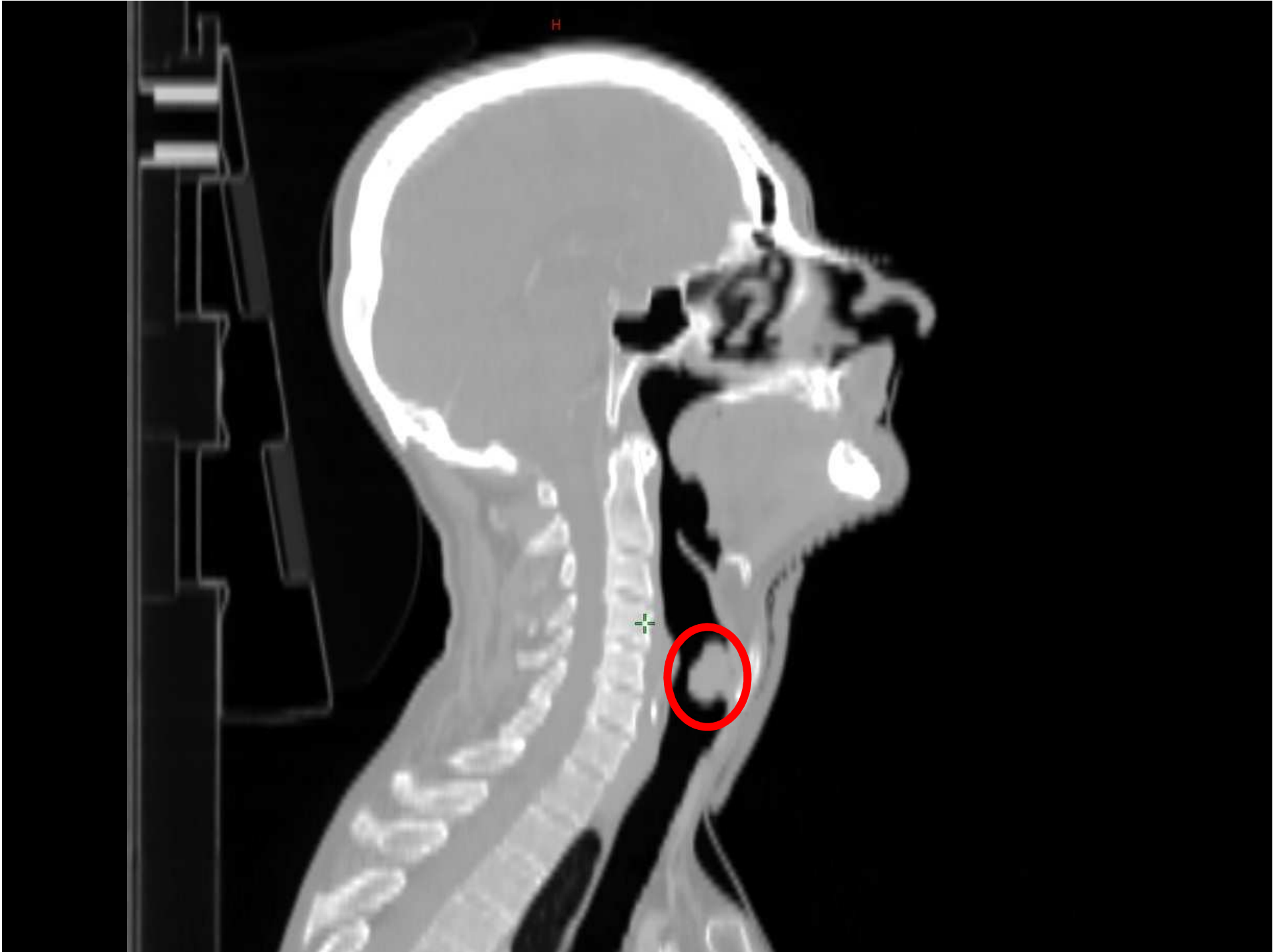
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Head and neck cancers - definition

Malignant neoplasms of the upper part of respiratory and digestive system and skin of head and neck:

- Nasal cavity
- Paranasal sinuses
- Oral cavity
- Salivary glands
- Pharynx (nasopharynx, oropharynx and lower pharynx)
- Larynx
- H&N cancers of unknown origin
- Head and neck skin

CNS tumors are not considered as H&N cancers.



Epidemiology

H&N cancers make about 5% all registered cancers in Poland (7% among men and 1% among women).

Annually about 6000 new cases and 3800 deaths.*

*Not including H&N skin cancers.

Epidemiology – years 2013-2014

| Cancer | Standardized (W) incidence ratio (number) | Standardized (W) death ratio (number) |
|---------------------------------------|-------------------------------------------|---------------------------------------|
| larynx | 3,44 (4551) | 2,23 (3031) |
| tonsil | 0,92 (1143) | 0,45 (581) |
| other and unspecified parts of tongue | 0,78 (974) | 0,46 (604) |
| flor of moutch | 0,7 (858) | 0,54 (691) |
| parotid gland | 0,51 (668) | 0,2 (319) |
| lower pharynx | 0,5 (635) | 0,38 (483) |
| lip | 0,47 (760) | 0,11 (190) |

Wojciechowska Urszula, Didkowska Joanna. Zachorowania i zgony na nowotwory złośliwe w Polsce. Krajowy Rejestr Nowotworów, Centrum Onkologii - Instytut im. Marii Skłodowskiej - Curie. Dostępne na stronie <http://onkologia.org.pl/raporty/> dostęp z 03/10/2017.

Secondary neoplasms

Patients with H&N cancers have increased risk of developing secondary neoplasms (2% annually and 36% in 20 years).

Etiology

- Smoking and chewing tobacco
- Alcohol
- Viral infection (HPV, EBV)
- Prolonged mechanical irritation
- Low oral hygiene
- Environmental factors (np. sunlight, wood dust)
- Iron and vitamin deficiency (B12, C)
- Betel and areca nuts
- Smoking marijuana

Screening

There is no screening for H&N cancers.

Symptoms

Non-specific and site-dependent:

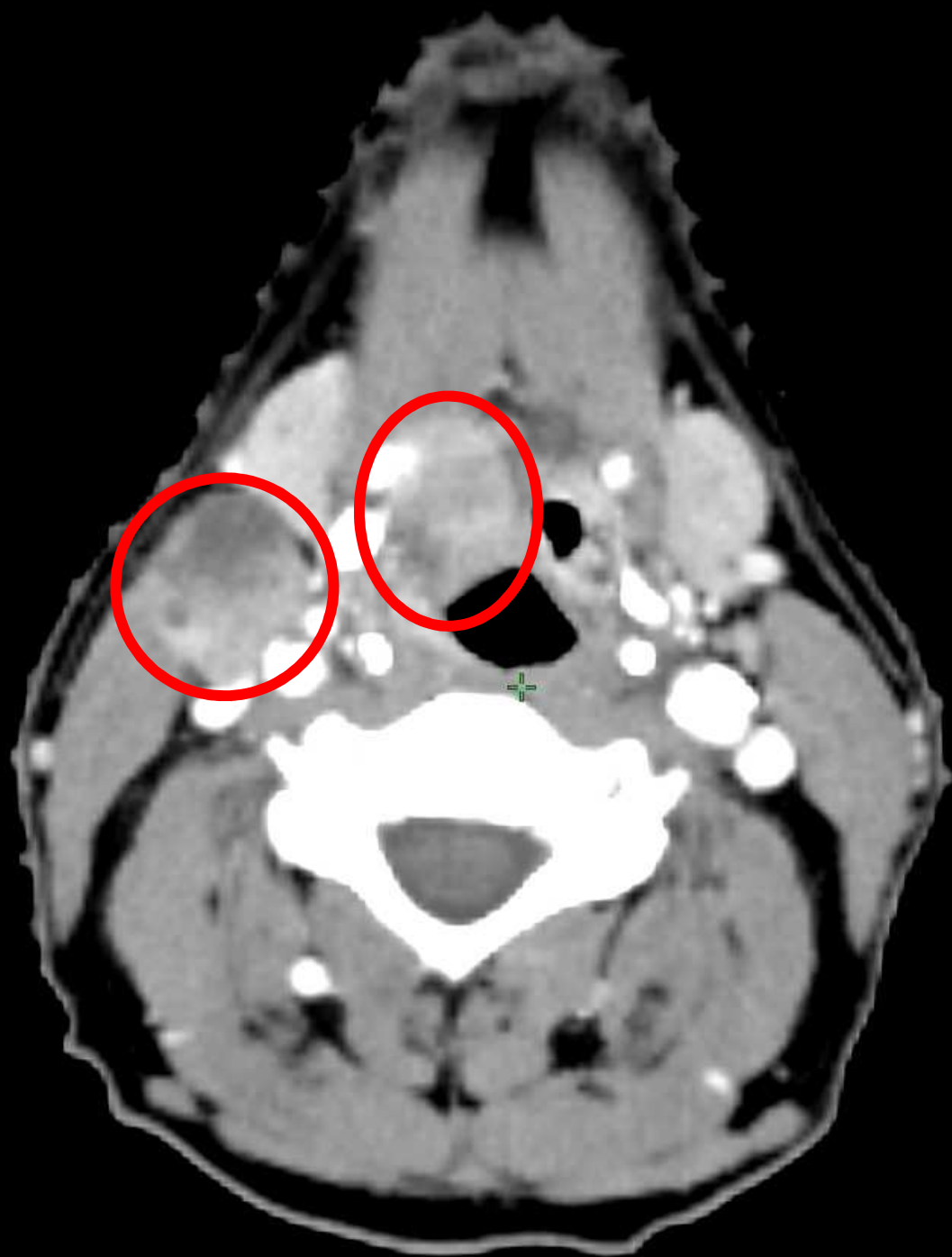
- Ulceration, swelling or irritation that does not heal
- Visible or palpable tumor in the head and neck
- Hoarseness, changed voice, speech disorders
- Obstruction of the nasal passages
- Unpleasant smell from the mouth
- Bleeding or abnormal discharge from the nose or mouth
- Difficulty in breathing, chewing, swallowing, tongue or jaw movements
- Hearing disorders or ear pain
- Weight loss not linked to diet
- Impairment of cranial nerve function
- Other

Cancer of the hard palate



Diagnosis

1. History (age, stimulants, cancer in history, familial neoplasm, occupational exposure, exposure to infectious agents, co-morbidities)
2. Physical examination (if we examine pathological mass of the tumor we need to determine the location, position relative to the adjacent structures, nature, tenderness, size and mobility of each lesion, and skin condition over the lesion)
3. Ear, Nose and Throat Examination (ENT) with direct and indirect laryngoscopy (note the movement and symmetry of vocal cords)
4. Endoscopic examination
5. Excisional or incisional biopsy (basis for diagnosis)



Sample examination

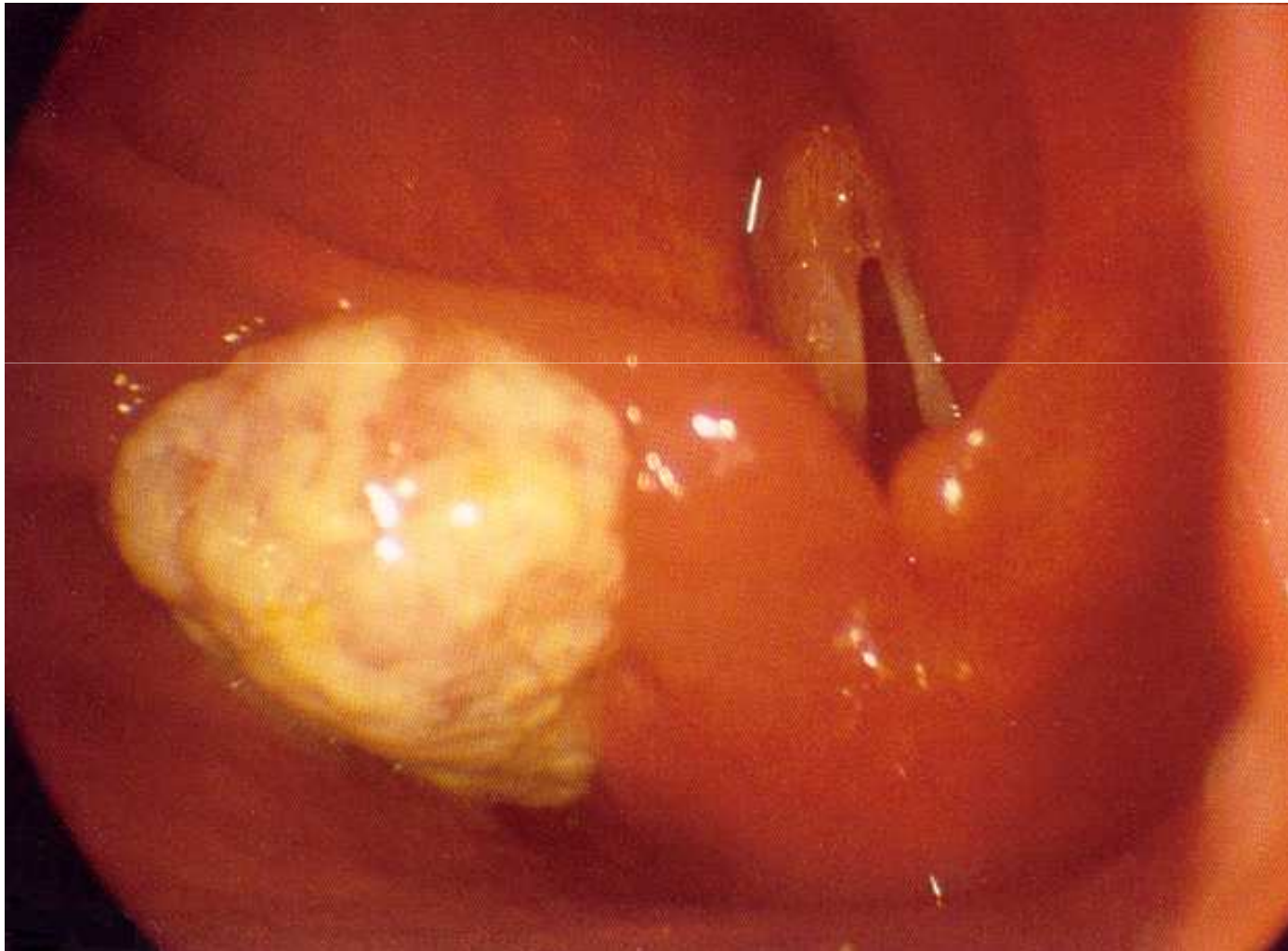
On the right side of the neck, at the height of the hyoid bone, in front of the SCM, there is a fixed, hard, painless, polycystic tumor, about 4 cm in diameter. Skin over the tumor is shifting, unchanged.

ENT examination

Mucosal spread may not be visible in diagnostic imaging but easy to see in ENT examination.

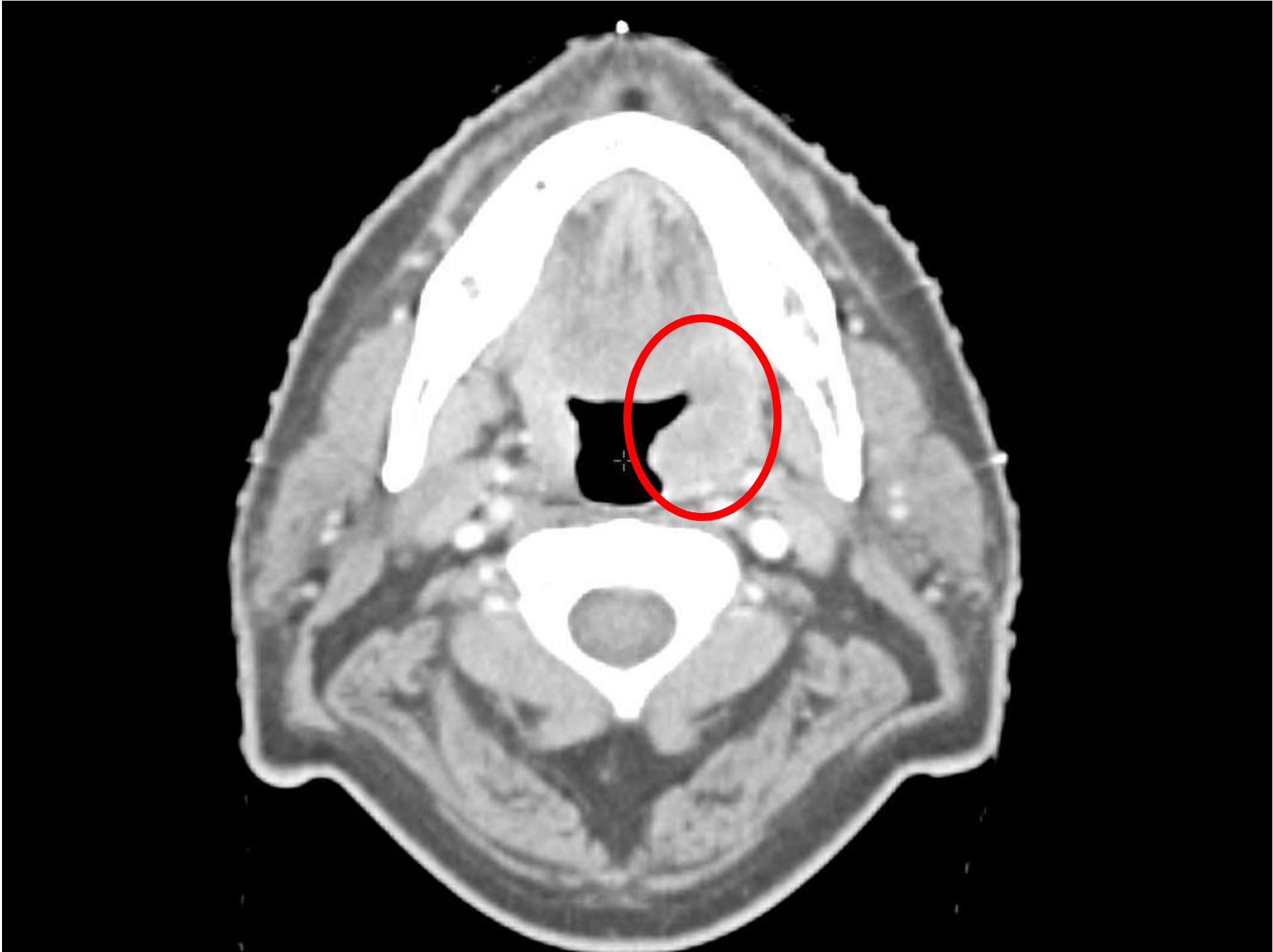
In addition, it's possible to determine the movement of the vocal cords.

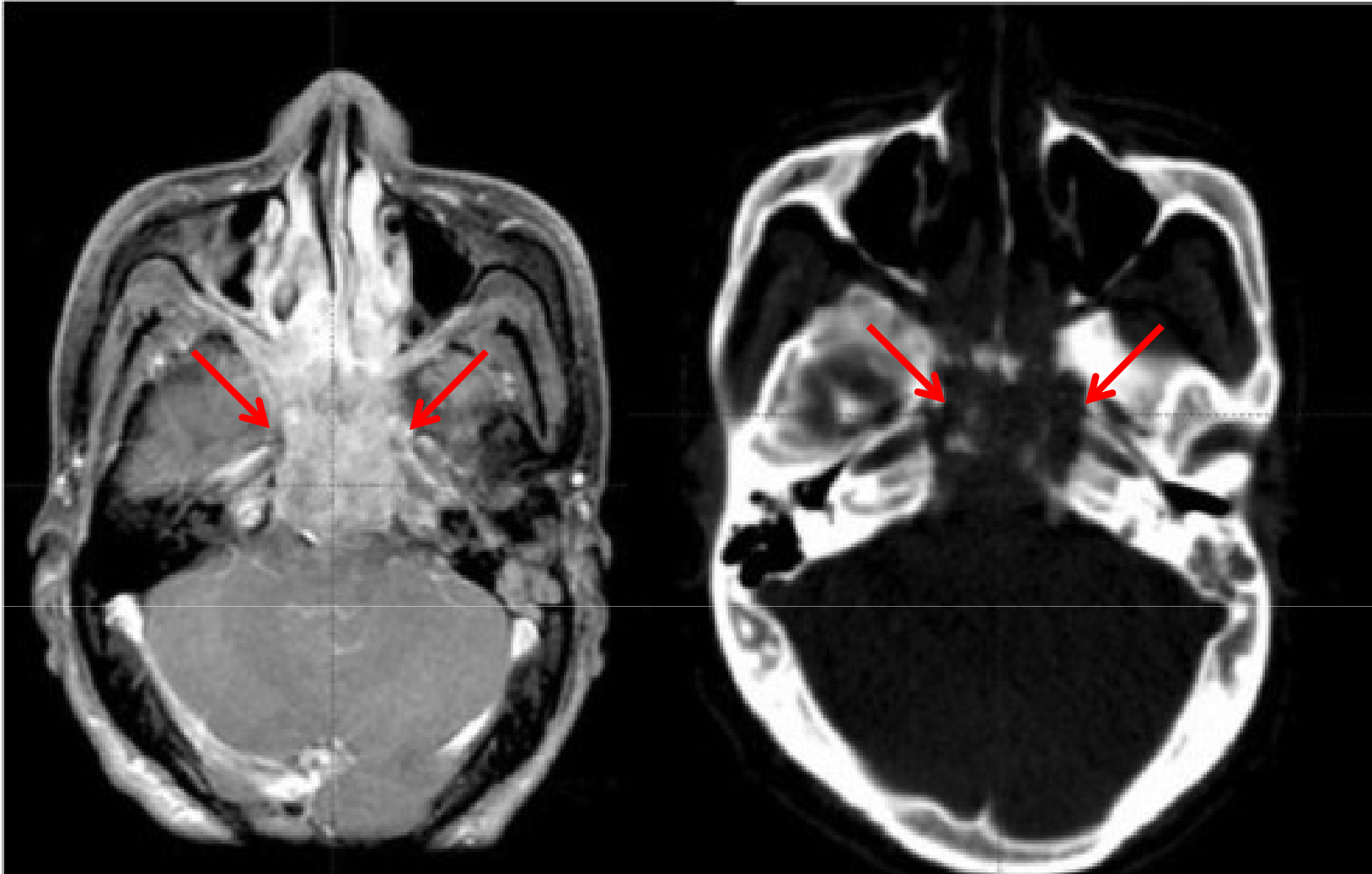
Cancer of the lower pharynx



Diagnostic imaging

- H&N CT (thorough evaluation of bone structures)
- H&N MRI (assessment of soft tissues and the base of the skull)
- PET-CT (differentiation between benign and malignant lesions)
- Chest X-ray/chest (distant metastases, other tumors)
- Abdominal US
- Pantomography (evaluation of bone infiltration)





- MRI: massive tumor with extensive infiltration
- TK: infiltration of the base of the skull

Staging

The stage of the tumor at diagnosis is the main prognostic factor.

The degree of advancement is determined by the TNM scale.

- T - primary tumor (location, size, relation to neighboring structures)
- N - lymph node involvement
- M - distant metastases

Stage I and II: small primary tumor without lymph node involvement.

Stage III and IV: a large primary tumor that may infiltrate neighboring structures and spread to regional lymph nodes.

Prognosis

Prognosis is dependent on the final diagnosis and staging.

For many localized head and neck cancers, the survival rate of patients in stage I is up to 90%.

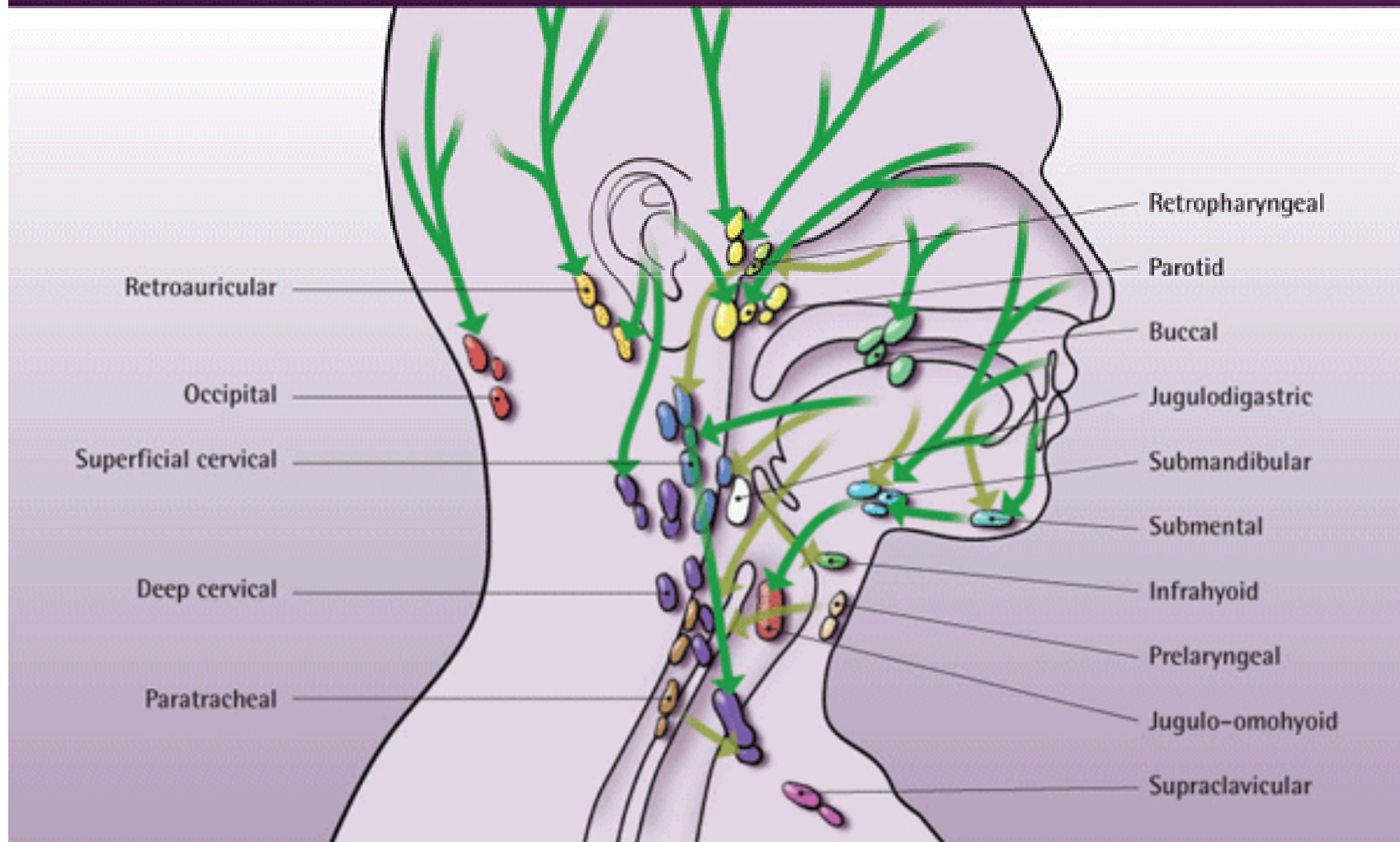
For patients with locally advanced disease at diagnosis (stage III and IV) the survival rate drops below 40%.

The presence of lymph node metastases in patients with small primary tumors decreases survival by 50%.

Involvement of even one lymph node is associated with a significant reduction in survival.

H&N lymphatic system

Lymph Nodes



Treatment

Multidisciplinary treatment team is required:

- Surgical treatment
- Radiotherapy
- Chemotherapy
- Molecular targeted therapy

The choice of treatment depends on:

- Tumor dependent factors (location, stage, histopathological diagnosis)
- Factors dependent on the patient (age, fitness, coexisting conditions, nutritional status)

There is often a need for combined therapy.

Treatment

- Standard treatment for patients with low stage head and neck malignancy (I-II: cT1-2N0) is surgical treatment or radiotherapy.
- In more advanced tumors (grade III-IV: cT3-4 and / or N1-3), concurrent radiochemotherapy or surgery and radiochemotherapy are most commonly used.

Surgery

Is the treatment of choice in the case of:

- Oral cavity cancer
- Cancer of the salivary glands
- Cancer of the nasal cavity and paranasal sinuses

The aim of surgical treatment is to remove the primary tumor with the margin of healthy tissue for histopathological evaluation.

Often a key part of surgical treatment is resection of the lymph nodes (indicated when metastases in regional lymph nodes are present).

Radioterapy

It can be used alone to preserve organ function (eg laryngeal cancer, lower pharynx cancer).

It can be a part of combined therapy with chemotherapy (eg for treatment of nasopharyngeal carcinoma), surgical treatment (eg adenoid cystic carcinoma in the head and neck).

It can also be used for paliation (eg, hemorrhage).

Chemotherapy

Essentially it is a component combined therapy.

Chemotherapy alone is used only for palliative treatment.

Combined therapy

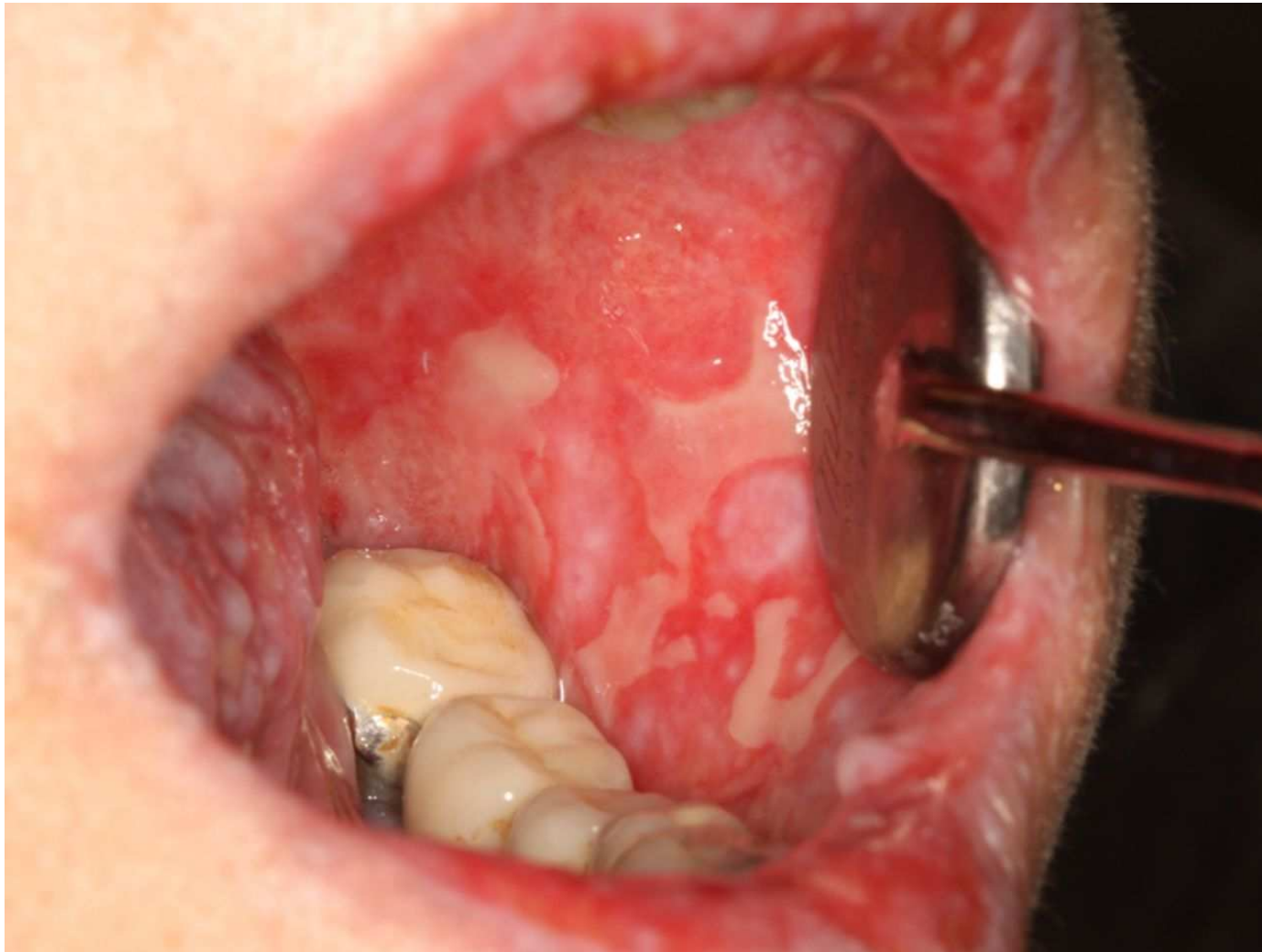
The most effective form of combined therapy is concurrent radio-chemotherapy with cisplatin.

Side effects of the treatment

Are dependent on the treatment and its intent:

- Reduced salivation, dry mouth, taste disturbance, increased caries
- Tenderness, pain, inflammation in the mouth
- Difficulty in swallowing, chewing and mouth opening, nausea and vomiting, weight loss
- Infections
- Other

Oral cavity mucositis



Follow-up

Early detection of the complications of the treatment, treatment failure, tumor recurrence, second independent cancer and implementation of adequate treatment.

The frequency of follow-up visits decreases with the time elapsed since completion of the treatment.