Benign diseases, infections of the oral cavity, pharynx and larynx

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Pharynx

- joint of the respiratory and alimentary tracts

**epi-** nasopharynx

**meso-** oropharynx

**hypo-** laryngopharynx

**pharynx**
An interrupted circle of protective lymphoid tissue at the upper ends of the respiratory and alimentary tracts.

- Pharyngeal tonsil (adenoid) - Upper midline in nasopharynx
- Tubal tonsil
- Tubal tonsil - Around openings of auditory tube
- Palatine tonsil
- Palatine tonsil - Either side of oropharynx
- Lingual tonsil
- Under mucosa of posterior third of tongue
Waldeyer’s ring of Lymphoid tissue

Protective lymphoid tissue
Pharynx

- Blood supply: external carotid artery’s branches
- Lymphatic system: submental, submandibular, parajugular, retropharyngeal and paratracheal lymph nodes
- Nervous system: n. V., VII., IX., X., XI., XII.
Definitions

**Pharyngitis**: inflammation on the mucosa of the pharynx

**Angina**: acute inflammation of the pharyngeal mucosa and the Waldeyer’s ring

**Tonsillitis**: inflammation of the tonsil, a part of the Waldeyer’s ring
Acut inflammations of the Waldeyer’s (tonsillitis, angina)

- Tonsillitis (tonsillo-pharyngitis) acuta
- Adenoiditis acuta
- Tonsillitis lingualis
- Angina lateralis (pharyngitis lateralis)
- Herpangina
- Scarlat angina
- Diphteria
- Angina luetica, tuberculotica
- Angina monocytotica
- Angina agranulocytotica
- Plaut-Vincent angina
- Tonsillomycosis, soor oris

Diagnosis: anamnesis, picture of the pharynx, palpitation of the neck, quick bacterial test, culture laboratory test
Pharyngitis acuta

Virus

*adeno-, rhino-, parainfluenza viruses*
- more frequent (70%)
- variable beginning
- mild → intense throat ache, variable fever
- other symptoms: caugh, rhinitis, myalgia, arthralgia
- in many cases both epi-, meso- and hypopharynx are involved
- sometimes primery symptom of infectious diseases (scarlet, rubeola, grip..)
Bacterial
- usually local bacterial superinfection of viral infection, rarely primary bacterial infection

*Streptococcus pyogenes* (A csop. béta haem.), C és G group *Streptococcusok*, *Neisseria spp.*, *Mycoplasma*, *Chlamydia spp.*

- rapid beginning, fever, intense throat ache
- erythema and exudatum in the throat, pharyngitis follicul.
- lymphadnomegaly on the neck
- often the palatine tonsils are also involved
- common complications (otitis media, sinusitis, peritonsillar abscess)
Treatment of acute pharyngitis

primarily *symptomatic treatment*:
- painkiller and antipyretic therapy
- bed rest,
- forced spawning, Ca
- antibiotic therapy in bacterial infection
Tonsillitis palatinalis acuta (angina tonsillaris)

Appearance types:

• Tonsillitis catarrhalis acuta (hyperaemic, swollen tonsils)

• Tonsillitis follicularis, lacunaris (yellow spots corresponding to the lymphatic follicles)

• Tonsillitis confluens (confluent, erasable plaque on tonsils)
• In our climate the autumn-winter and spring sesonality is specific
• Spreads with droplet infection (children! washing hands! handkerchief!) human to human
• Incubation period: 1-4 days
Pathogens of acute tonsillitis or angina tonsillaris

- In adulthood 90% viruses
- In childhood 60-75% viruses
- Together with other pathogens or autonomously
- **Streptococcus pyogenes** (*Streptococcus beta-hemoliticus A*)
  - primary bacterial pathogen
    - in adulthood infections around 10%,
    - in childhood (after 3 years old age) around 25-40 %
- Rarely other bacteria: C and G group
  - *Streptococcus*, *Neisseria* spp., *Mycoplasma*, *Chlamydia* spp.
Most frequent symptoms of Streptococcal angina

Rapidly manifest throat ache, fetor
Swallowing problem
Exsudatum on tonsils
Lymphadenomegalgy and pain on the neck
Petechia on the soft palat
High fever 39-40°C
Headache
Stomach ache, vomiting
Diagnosis of Streptococcal tonsillopharyngitis

• Physical examination – picture of throat, sensitive and swollen lymph nodes on the neck
• Quick bacterial tests – showing pathogens or there’s antigens → Strep- test (85%)
• Culture of oro- or nasopharynx: (90%)
• Laboratory test – neutrophilia and leukocytosis
• For the diagnosis of acute Streptococcal angina is NOT necessary the ASO (AST), the higher AST can be a sign of chronic tonsillitis
Potential complications of Streptococcal angina

peritonsillar abscess
retro-, parapharyngeal abscess
rheumatic fever
polyarthritis rheumatica
endo-, myo-, pericarditis
glomerulonephritis
sepsis
Other diseases, which seem like Streptococcal tonsillopharyngitis - differential diagnostic questions

- Mononucleosis infectiosa
- other viral tonsillopharyngitises
- agranulocytosis and tonsillopharyngitis
Antibiotic treatment in acute Streptococcal pharyngitis and tonsillitis

Enough dose, for enough time! /10 days/

1. **Penicillin**! / Penicillin G: 1,2 mill. NE im. 1x / Amoxycillin, Ampicillin (resistance is more frequent) >> Amoxycillin/clavulanacid or Ampicillin/sulbactam

2. **Makrolids:**  Erythromycin
   Clarithromycin, Roxitromycin
   Spiramycin (in gravidity)
   Clindamycin
   Resistance against makrolids is growing!

3. **Cephalosporin**  I. generation: cefalexin
   II. and III. generations: cefaclor, ceftibuten
Adenoiditis acuta (tonsillitis pharyngica)

- viral (more frequent) or bacterial infection
- nasal obstruction, noisy respiration, snoring
- common complications: conductive hearing loss, acut otitis media
- diagnosis: rhinoscopy posterior, endoscopy (swollen adenoid in the epipharynx, sometimes there is confluent plaque on the surface)
- treatment: nosedropp, antibiotics
Tonsillitis lingualis

- serious swallowing problem
- „foreign body” feeling, painful during the movement of the tongue, swollen of submental lymph nodes
- more frequent after tonsillectomy, but it can join to tonsillitises parallelly
- diagnosis: swollen, inflamed basic of the tongue with yellow spots corresponding to the lymphatic follicles
- treatment: the same as in tonsillitis
Pharyngitis lateralis

- Inflamed and swollen lymphoid tissue on the lateral part of the pharynx with yellow plaque on the surface
- Moderate swallowing problem
- Mainly after tonsillectomy
- Treatment: the same as in tonsillitis + 2-5% silver nitrate topically applied
Herpangina (pharyngitis vesicularis)

- Coxsakie A – viral infection
- Vesicles on the soft palate, on the arches of pharynx and on the tonsils, after exulceration with fibrin plaque
- High fever, headache, throatache
- Treatment: symptomatic, oral hygiene, NO antibiotics
Scarlet angina

A group *streptococcus haemolyticus* (*erythrogen toxin*)

- severe malaise, swallowing pain, regional lymphadenopathy, nutritional problem
- exanthema after 24 hours on the upper part of the body and on the face
- „strawberry tongue”, pale perioral skin, tonsillitis lacunaris, erythema on the soft palate

**treatment**: antibiotic (penicillin), symptomatic

- post-streptococcal complications!
Mononucleosis infectiosa
(Pfeiffer glandular fever)

*Epstein-Barr virus*

- 38-39 °C fever, malaise, headache, pain in extremity, generalized lymphadenopathy, hepatosplenomegaly
- tonsils covered by fibrinous exudate
dg.: Paul-Bunnel test positive, leukocytosis/atypic lymphocytas, monocytosis (80-90 %), high liver enzymes/, UH

**treatment:** symptomatic, painkiller, antipyretic, liver diet, against superinfection→ antibiotic /ampicillin NO!-Rush syndr./,

Long runoff! Complications!
Plaut-Vincent angina (angina ulceromembranacea)

- *Bacillus fusiformes, spirocheta*
- unilateral!
- mild subjective complaint, subfebrility
- unilateral swallowing pain and lymphadenomegaly
- grey exudate on the tonsil, under it an ulceration
- exudate easily wiped off, may extend to the palate, buccal mucosa and gingiva

**treatment:** penicillin, 2-5% silver nitrate topically applied
Angina agranulocytotica

leukotoxic medicine, infections, intoxication

- malaise, high fever, chills, bleeding of gingiva, salivation, severe pain in the neck and on swallowing, foetor ex ore, no regional lymphadenopathy
- ulceration and necrosis on the tonsils

**diagnosis**: blood test

**treatment**: haematological therapy
Herpes simplex

*Herpes simplex virus*

- 90% virus carriers,
  1%: herpes labialis or stomatitis herpetiformis
- burning pain, foetor ex ore,
  lymphadenopathy, pain swallowing
- vesicles, around red exulceration

**diagnosis**: virus antibody serology
**treatment**: acyclovir, symptomatic, 2-5% silver nitrate topically applied
Tonsillopharyngitis diphterica
- the tonsils and the mucosa are moderately swollen with white or grey velvety membrane, which becomes confluent. The membrane can be wiped off difficulty, leaves a bleeding surface.
Treatment: immunization, antibiotic, vaccination

Tonsillar tuberculosis
- superficial erosive ulcer with necrotic slough on tonsils, usually unilateral
- differential diagnosis: tumor
- treatment: antibiotic
Candidiasis (soor oris)

*Candida albicans*

/immunodeficiency, antibiotic therapy, chemotherapy, irradiation, korticosteroid/

- burning pain in the pharynx, taste problem, subfebrility
- white superficial punctate exudate form, which can be wiped off and later becomes confluent

**diagnosis:** culture

**treatment:** borax-glycerin, antimycotic locally or generally
Chronic pharyngitis

- Comprehensive term for several chronic irritative or inflammatory conditions of the pharyngeal mucosa.
- Types: pharyngitis chr. simplex, hyperplastica (granulosa), sicca (atrophicans)
- cause: functional constitutional weakness of the pharyngeal mucosa
- due to factors of: chemically, powder, dry air conditioned atmosphere, temperature fluctuation, nasal airway obstruction, drinking, smoking, forced speaking etc.
- croak, globus feeling
- mild hiperamic, granulated mucosa, lymphatic tissue on the back part of the pharynx
- treatment: elimination of causing factors, symptomatic
Chronic tonsillitis

Diagnosis: anamnesis, symptoms

- acute tonsillitis 2-3 times per year, or more
- subfebrility, loss of appetite
- no pain
- moderate neutrophilia, growth We
- high se AST >200
- other symptoms, which show focus of infection:
  - rheumatic fever, tonsillar sepsis, polyarthritis rheumatica,
  - glomerulonephritis, endo-, myo-, pericarditis, psoriasis,
  - urticaria chr., alopecia areata, iritis, iridocyclitis,
  - vasculitis, neuritis
Chronic tonsillitis

Locally:
- hyperemic line on the arches of the pharynx
- yellow exudatum can crush out from the tonsils
  the detritus is not relevant!
- the size of tonsils is not relevant!
  (hypertrophia, atrophia)
- culture:
  *A group β haemolytic streptococci*
  *or mixed bacteria*

**treatment:** tonsillectomy
Complication of angina tonsillaris: infiltration and abscess peritonsillaris

**Symptoms:** after tonsillitis a symptom free interval of a few days, after rapidly increasing difficulty in swallowing and pain radiates to the ear. Trismus, oral fetor, refuse to eat, feeling of pressure in the neck. Swelling of the regional lymph nodes, increase fever to 39-40 C°.

**Pathogenesis:** inflammation spreads from the tonsillar parenchyma to the surrounding tissue, producing peritonsillillitis, and an abscess forms within a few days.
Abscess peritonsillaris

- Inspection of the pharynx is difficult due to severe trismus.
- Redness and protrusion of the tonsil, faucial arch, palate and uvula. Uvula is pushed towards the healthy side. Exudate on the tongue.
Treatment of the abscess peritonsillaris

- punctum and aspiration
- wide incision of the abscess
- expansion day by day, locally disinfection
- antibiotic therapy
- after 6 weeks of the recovery
- tonsillectomy
Local anaesthesia (with 1% Lidocain infiltration) around the right side abscess, puncture
Right side peritonsillar abscess with uvula oedema after infiltration
Incision and opening the spatium around the right tonsil
Treatment of abscess peritonsillaris 2.

Abscesstonsillectomy in general anaesthesia.
(intubation narcosis)

- tonsillectomy „á chaud”
- tonsillectomy „á tiede”
- tonsillectomy „á froid”

• + antibiotic treatment
Other possible complications of peritonsillar abscess

- Oedema of the larynx
- Phlegmone in the neck
- Parapharyngeal, retropharyngeal abscess
- Mediastinitis
- Cerebellar abscess
- Sin. cavernosus thrombosis
- V. jug. int. thrombosis
Parapharyngeal, retropharyngeal abscess

- serious, life-threatening situation
- diagnosis: CT or MRA
- children and adults are also can be concerned
- treatment: always operation, exploration within 24 hours! With antibacterial and symptomatic therapy.
Possible directions of spread of a tonsillogenic infection

CT scan of right side parapharyngeal abscess.
Acut inflammation of the larynx

- Pathogens are the same as in acute pharyngitis
- Treatment is also the same + not talking
- Symptoms: huskiness, pain, problem with swallowing and breathing, fever
Acut epiglottitis

- rapid beginning, huskiness, „globus” feeling, swallowing pain, fever, stridol during inspiration
- redness epiglottis, oedema → sign of inflamed submucosa, abscessus

**diagnosis:** wary investigation! Fiberoscopy.

**treatment:** hospitalization, parenteral antibiotic, corticosteroid

*incision* - conicotomy or tracheotomy if necessary!
Chronic laryngitis

**symptoms:** huskiness, coughing, „foreign body” feeling

**etiology:** inhalative noxas, smoking

**diagnosis:** „poor” picture of larynx, dry and pale mucosa, exsudatum

**treatment:** excluding noxas, inhalation
Benign tumors in the mouth

• fibroma, cysta, hemangioma, lymphangioma, leiomyoma, lipoma… etc.

• diagnosis: picture of pharynx, CT, MR, in toto excision, histology

Papilloma

• genital HPV - cancer of the neck of uteri
• oral sex

**diagnosis:** excision, histology

**treatment:** prevention, HPV 6, 11, 16, 18 vaccination
Reinke oedema

- Oedema of the first 2/3 part of the vocal chords
  etiology: smoking, irritation, inflammations
  symptoms: huskiness, noisy breathing, sometimes stridol
  diagnosis: laryngoscopy
  treatment: laryngo-microchirurgry, excision – general anaesthesia
Polyp laryngis

etiology is unknown, irritation

**symptom**: huskiness, „voice jumping”, spastic type speaking

**diagnosis**: laryngoscopy

**treatment**: laryngo-microchirurgry, polypectomy - general anaesthesia
Nodulus laryngis

singers, teachers
etiology: bad speaking and singing technic, straining the vocal chord
symptoms: huskiness, veiled voice
diagnosis: laryngoscopy
treatment: conservative, voice therapy
Laryngeal cyst (vallecula)

etiology is unknown

symptoms: „forein body” feeling

diagnosis: laryngoscopy

treatment: laryngo-microchirurgie, cysta excision, histology –
genereal anaesthesia
Thanks for your attention!