Periodontology

Etiology
Pathogenesis
Diagnosis
Therapy prevention
Periodontology

- Periodontal tissues (supportive tissues)
  - alveolar bone
  - cementum
  - periodontal ligament
  - gingiva
Morphology
Supportive tissues

Dentogingival junction

- Gingival sulcus
- Sulcular epithelium
- Cemento-enamel junction

- Free gingiva
- Free gingival groove
- Attached gingiva
- Mucogingival junction
- Alveolar mucosa
Periodontal diseases

- Etiology

  Local factors

  Systemic factors
Local factors

- Dental plaque (biofilm)
- Dental calculus
- Bad fillings
  - Overhangs
  - No contact poing
  - Not polished (esp composite fillings)
Local factors

- Bad made crowns and prothesis
- Mucosal disorders – frenum
- Trauma (bad occlusion) - high fillings
Dental plaque = biofilm

- Community
  - More species
  - Higher metabolic activity
  - Higher resistance
  - (S. sobrinus CHX 300x, AF 75x)

- Primitive circulation
  - better conditions to survive
  - higher virulence
Biofilm

- Adherence
- Colonisation
- Maturation
Can it be recognised and removed easily?
Plaque detection

- Special liquids
- Tablets
- Gels
Dental calculus
Periodontal diseases

- Plaque associated
- Plaque modulated
**Parodontopathies**

**Gingivitis**

- **Plaque associated gingivitis**
  - **Chronic form**
    - Erythema
    - No pain
    - Easy bleeding
    - Plaque on the tooth
  - **Acute form**
    - Erythema
    - Pain
    - Easy bleeding
    - Plaque on the tooth
Acute necrotisans gingivitis - ANUG

- Necrotizing ulcerative gingivitis

Aetiology

Special microbes - anaerobs
The clinical picture

- Gingival inflammation and destruction

Severe pain, bleeding gums, halitosis
Atrophic or desquamative gingivitis

**symptoms**

- **Erythema on free gingiva – loss of the epithelium**

- **Variety of symptoms:** itching, tenderness of eating, burning.
Hyperplastic gingivitis

- High standard of oral hygiene must be achieved!

- Gingivectomy (drugs induced)
Parodonthopathies

*Periodontitis*

- Chronic periodontitis.
- Aggressive periodontitis.
- Periodontitis as a manifestation of systemic disease.
- Necrotizing periodontal diseases.
- Abscesses of the periodontium.
- Periodontitis associated with endodontic lesions.
- Development or acquired deformities and conditions.
Periodontitis

- Gingivitis
- Pocketing
- Loss of alveolar bone
- Drifting and mobility
- Furcation exposures
- Recession
Periodontitis

- Gingivitis
- Pocketing - increasing depth of gingival sulcus
- Loss of alveolar bone
- Drifting and mobility
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Periodontitis

- Chronic adult periodontitis
- Aggressive periodontitis
- Early onset periodontitis
Diagnosis

- History
- Clinical examination
  - Level of oral hygiene
  - Periodontal status
- Radiography
Investigative instruments in periodontology

- Periodontal probes
  - blunt (no damage of periodontal ligament)
  - calibrated (measurement of depth of sulcus or pocket)
  - Some with the ball at the end (tactile investigation – calculus)
PBI – papilla bleeding index

0: No bleeding
1: Point
2: Line
3: Triangl
4: Drop
Importance

- Sume divided with number of investigated points - figure

\[
\begin{align*}
1 & 2 \\
3 & 2 \\
3 & 1 \\
2 & 2 \\
1 & 0 \\
0 & 2 \\
2 & 3 \\
\hline
12 & 14 \\
1 & 1 \\
2 & 2 \\
0 & 4 \\
0 & 3 \\
3 & 4 \\
2 & 3 \\
1 & 0 \\
\hline
9 & 17
\end{align*}
\]

\[52:28 = 1,8\]
\[52/28\]
CPITN
(Comunity periodontal index of treatment needs)
WHO probe
Slight pressure
Around the teeth
Wait 1 min
CPITN

- 0 no bleeding
- 1 bleeding
- 2 dental calculus
- 3 periodontal pocket 3 – 5 mm
- 4 periodontal pocket deeper than 5 mm
CPITN

- 0 - no therapy
- 1 bleeding – improve oral hygiene
- 2 dental calculus – professional oral hygiene, home care
- 3 periodontal pocket 3 – 5 mm complex periodontal therapy – more conservative
- 4 periodontal pocket deeper than 5 mm – complex periodontal therapy including surgical
Therapy

1. Oral hygiene - professional, home care

INDIVIDUAL
Therapy

1. Oral hygiene - professional, home care

INDIVIDUAL
Therapy

1. Oral hygiene - professional, home care

INDIVIDUAL
Scalers

sharp pointed instruments
removal supragingival calculus only
Sonic and ultrasonic scalers
Air flow
Currentes

- Sharp spoons for subgingival treatment
- Not pointed
- Two sharp blades - universal
- One sharp blade - special
Universal and special currette

Universal
Working part and shaft 90°
Cut also soft tissue

Special
Working part and shaft 70°
Clean only root of the tooth
Scaling, root planing

- Action of the currette
Therapy

- Oral hygiene
- Scaling – root planning
- Surgery
- Prosthetic treatment
- Recall
Therapy

- 2. Subgingival treatment – scaling root planing, curettage
Therapy

3. Periodontal surgery
Gingivectomy, gingivoplasty

Indications of gingivectomy

- Hyperplasia gingivae (pseudopockets)
- Supraalveolar periodontal pockets with the horizontal bone resorption
- Bad configuration of the gingival margin or papilla fol. ANUG or extraction.
Gingivectomy

Gingivoplasty
Internal gingivectomy

External gingivectomy

Intrasulcular
Marginal
Paramarginal

Papilar
Paramedial
Medial
Closed curretage
Flap operation

- Modified Widman flap
- Apical flap, replaced flap
- Papilla preservation technique
- Wedge excision
Apical flap

Replaced flap
Mucogingival surgery

- Enlargement of attached gingiva
  - Frenulectomy
  - Vestibuloplasty

- Plastic of recessus
  - Lateral flap
  - Bridge flap
  - Mucous or mesenchymal grafts
Graft

Bone regeneration

Tissue engineering