CIINICS AND DIAGNOSTIC OF PERIODONTAL DISEASES

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Boychenko O.M.
Lecture plan and organizational structure.

1. Clinical presentation, diagnosis of inflammatory periodontal diseases (papillitis, primary and symptomatic gingivitis, localized periodontitis).
4. Features of clinical manifestations of progressive periodontal disease.
5. Clinical presentation and morphological diagnostics of periodontitis, malignant tumors of periodontal tissues.
Inflammatory diseases of periodontium

**Papillitis** – inflammatory diseases one or two interdental papilla (primary or secondary)

**Classification of papillitis (by Danilevskiy N.F., 1958)**

1. Catarrhal *(acute, chronic)*
2. Hypertrophic *(with subacute course, chronic, with symptoms gemoragy)*
3. Atrophic
4. Ulcerous
Inflammatory diseases of periodontium

**Papillitis**

**Complains**
Discomfort, mild pain, heaviness, itching in a specific area of the dentition during eating, the ingestion of food in contact with residues interdentium, application of hygiene, bleeding by mechanical stimulation.

Aching pain in the problem region, which increased at night (ulcerative papillitis)

**Anamnesis of disease**
Determined etiology. The presence action of the causative factors (physical, chemical, biological) to the region of the papilla.

**Anamnesis of life**
Determined etiology. The presence of somatic disorders, neuro-regulation of the secondary process.
Inflammatory diseases of periodontium

Papillitis

Objective status (general)

Primary

General status without change

Secondary

May be changes of general status, which specific for present somatic pathology
Inflammatory diseases of periodontium

Papillitis

Objective local status

Absence reaction of regional lymphatic nodes

CHANGE OF:
- color (arterial or venous hyperemia)
- shape
- consistence
- sensitivity papillae during palpation

PRESENCE OF GINGIVAL POCKET

BLEEDING DURING PROBING
Inflammatory diseases of periodontium

Papillitis

Objective local status

Presence of illness factors
Inflammatory diseases of periodontium

**Gingivitis** – inflammation of the gum (primary and secondary) without destruction of dento-gingival junction

- **Forms**
  - catarrhal
  - hypertrophic
  - ulcerous
  - atrophic

- **Course**
  - acute
  - chronic

- **Spreadness**
  - local
  - general
Inflammatory diseases of periodontium

**Gingivitis**

**Complaints**

- Painfullness of the gum,
- Discomfort in the gums
- Bad breath

**Bleeding of the gum:**
- During brushing
- During bite hard food
- Spontaneous
Inflammatory diseases of periodontium

Gingivitis

**Complains**

- By the general status (malaise, headache, fever, skin rash ...)
- Increased the bleeding
- Burning, fullness in the gums
- Aesthetic defect in proliferation gums
- Pain in gum
- Difficult during eating
- Putrid smell from the mouth
- By the general status (malaise, headache, fever)
Inflammatory diseases of periodontium

Gingivitis

Anamnesis of diseases

- The beginning of illness—imperceptible or associated with the action of pathogenic factors

1. Supragingival tooth deposits
2. Not good fabricated fills, orthopedic and orthodontics constructions
3. Acute margins of the tooth, carious cavity
4. Mechanical, thermal, chemical, radiation trauma
5. Extreme mechanical load on tooth
6. Anomalies and deformations of the bite, dental arch, tooth
7. Anomalies of soft tissues of oral cavity
8. Small vestibulum of oral cavity

I. Stress and psychoemotional tension
II. Diseases of inner organs
III. Intoxications (infections, chemical)
Inflammatory diseases of periodontium

Gingivitis

Anamnesis of diseases

- Communication signs of disease to the general non-specific symptoms (for secondary)

- Previous treatment (when, where, efficiency) (important for chronic process, especially secondary)

- Seasonality (for catarrhal, ulcerous)
Inflammatory diseases of periodontium

Gingivitis

Anamnesis of life

- Style of life
- Previous diseases, injury, operations
- Inner diseases
- Allergic anamnesis
- Bad habits
- Taken drugs in the past and present

For primary – without features, for secondary - weighed down
Inflammatory diseases of periodontium

Gingivitis

General objective status

Primary
May be change of general status by ulcerous gingivitis medium and hard level (if present intoxication)

Secondary
May be changes of general status which specific for present inner pathology
Inflammatory diseases of periodontium

**Gingivitis**

**Local objective status**

- On palpation of lymph nodes, maxillofacial changes are present by:
  - expressed acute catarrhal gingivitis,
  - ulcerous (primary) gingivitis
  - secondary gingivitis (if these symptom specific for somatic pathology)

- Size
- consistence
- connection with the skin
- connection between nodes
- painfulness
Inflammatory diseases of periodontium

Gingivitis

Local objective status

CHANGES:
- color (arterial or venous hyperemia),
- form,
- consistence,
- sensitivity of the gum

Acute catarrhal

PRESENT GINGIVAL POCKETS

PRESENT OF HALITOSIS

ABSENT PATHOLOGICAL MOBILITY OF THE TOOTH

SUPRAGINGIVAL DENTAL PLAQUE

Chronic catarrhal
Inflammatory diseases of periodontium

Gingivitis

Local objective status

Formaline probe (C. Parma, 1960)

Determining the integrity of dentogingival connection
(5 ml 40% formaline, 20 ml glycerine, 175 ml of water)

A – gingival sulcus in normal condition, during probing penetration in epithelium max. – 2mm.

B – gingival pocket with gingivitis. Loose of epithelium connection is absent

C – gingival pocket with gingivitis by edema, loose of epithelium connection is absent

Probing of gingival sulcus
Inflammatory diseases of periodontium

Gingivitis

Index estimation the condition of gingiva

Index of degree inflammation in gum

- PMA (1960)
- Sillness-Loe (1963)
- Russel (1956)
- Ramfjord (1974)
- SBi – gum bleeding (1958)
- PBI – papillae bleeding (1977)
- probe Shiller-Pisarev

Index of degree destruction of periodontal tissues

- Ramfjord (1959),
- Sandler-Stahl (1957),
- Miller – gum recession (1985)
Inflammatory diseases of periodontium

Gingivitis

Hygiene condition of oral cavity

- Green-Vermillion (1964),
- Sillness-Loe (1962)
- HYG – interdental hygienic index (Rateitchak, 1989)
- by Fedorova-Volodkina
Inflammatory diseases of periodontium

Gingivitis

Additional methods

Chronic general catarrhal gingivitis
**Inflammatory diseases of periodontium**

**Gingivitis**

**Additional methods**

**Probe Roterrrs**
Determination of tissue saturation with ascorbic acid (2,6-dichlorophenolindophenol - paint Tilemans)

**Biochemical analysis of blood**

**Clinical analysis of venous blood**

**Cytomorphometry**

**Probe of Yasinovsky**
Activity of the inflammatory process, the state of local immune mediated.
Inflammatory diseases of periodontium

Gingivitis

Additional (functional) methods

- Reoparodontography
- Laser Doppler flowmetry
- High-frequency ultrasound
- Doppler
- Capillaroscopy, contact biomicroscopy
- Probe of Kulagenko

- Ultrasonic ehoosteometriya
- Densitometry (X-ray, ultrasound)
Inflammatory diseases of periodontium

**Gingivitis**

**Additional (microbiological) methods**

**Staphylococcal infection** – chronic activation with frequent exacerbations

**Streptococcal infection** – lingering inflammation

**Assiociants** fungi Candida with Staph. and strept. – current active chronic inflammation

**Enterobacter spp.**

**Pseudomonas aeruginosae**

**Bacteroides forisithus**

**Candida albicans**

**Streptococcus sanguis**

**Streptococcus mutans**

**Streptococcus haemoliticus**

**Peptostreptococcus micros**

**Streptococcus intermedia**
Inflammatory diseases of periodontium

Gingivitis

Additional (microbiological) methods

Ulcero-necrotic (Vensan)

fusiform bacillus spirochete Vincent
Inflammatory diseases of periodontium

Localized periodontitis – inflammation-dystrophic diseases of periodontal tissues (primary) with destroyed of tooth-gingival junction in one sextant of the
SYMPTOMOMOCOMPLEX OF PERIODONTITIS

1. Symptomatic gingivitis
2. Periodontal pocket
3. Mobility of the tooth
4. Destruction of the bone
Inflammatory diseases of periodontium

Localized periodontitis

Complains

1. Symptomatic gingivitis

Gum painless,
Discomfort in the gum
Bad breath

Bleeding of the gum:
- during brushing
- by bite hard food
- spontaneous
Inflammatory diseases of periodontium

Localized periodontitis

Complains

Aesthetic defect at lowering the gums and teeth dysposition

High sensitive of the tooth to temperature, chemical and mechanical irritation factors

Tooth mobility
Inflammatory diseases of periodontium

Localized periodontitis

Anamnesis of disease

- **Start of disease** – imperceptible or associated with the action of pathogenic factors
  1. Dental calculus
  2. Not good fabricated fillings, orthopedic and orthodontic construction
  3. Acute margins of the tooth, carious cavity
  4. Mechanical, thermal, radial, chemical trauma
  5. Extreme mechanical load on tooth
  6. Anomalies and deformations of the bite, dentition and tooth.
  7. Anomalies of soft tissues in oral cavity
  8. Extreme mechanical load on tooth

- **Previous treatment** (when, where, effect) (important for chronic process)

- **Seasonality**
Inflammatory diseases of periodontium

Localized periodontitis

Anamnesis of life

- Style of life
- Previous diseases, trauma, operations
- Present diseases
- Allergy anamnesis
- Bad habits
- Used drugs in past and present time

Without features
Inflammatory diseases of periodontium

Localized periodontitis

Objective general status

WITHOUT FEATURES

Local objective status

- ABSENCE REACTIONS OF REGIONAL LYMPH NODES (in chronic process)

- PRESENCE OF SYMPTOMATHIC GINGIVATIS (objective status is the correspondence of form of the gingivitis)

- APPEAR OF PERIODONTAL POCKETS (depth is correspondence of severity)

- APPEAR OF PATHOLOGICAL MOBILITY OF THE TOOTH
Inflammatory diseases of periodontium

Localized periodontitis

DIAGNOSTIC OF PERIODONTAL POCKETS

A – gingival sulcus in norm, apical region of CE is localized on the level of cementum-enamel border
B – Suprabone pocket, loose of connection, proliferation of epithelium of pocket. On the bottom of pocket – remains of CE.
C – intrabone pockets
Inflammatory diseases of periodontium

Localized periodontitis

DIAGNOSTIC OF PERIODONTAL POCKETS

Pocket depth (PD) – the distance from the gingival margin to the point where the probe stops (imprecise measurement)

Clinical level of connection (CLC) – the distance from cementum-enamel border to the point where the probe stop (precise measurement)
Inflammatory diseases of periodontium

Localized periodontitis

DIAGNOSTIC OF PERIODONTAL POCKETS

Loose of attachment (connection)

I degree – loose till 3,5 mm
II degree – loose 4-5 mm
III degree – loose over 5 mm
Inflammatory diseases of periodontium

Localized periodontitis

DIAGNOSTIC STATIC OF THE TOOTH

PATHOLOGICAL MOBILITY

I stage of periodontitis – I level of tooth mobility
II stage of periodontitis – I, II level of tooth mobility
III stage of periodontitis – I-III level of tooth mobility
Inflammatory-dystrophic diseases of periodontium

Generalized periodontitis - inflammatory-dystrophic diseases of periodontal tissues (secondary) with destroyed of tooth-gingival junction

- COURSE
  - chronic
  - exacerbation
  - remission

- STAGE
  - INITIAL
  - I DEGREE
  - II DEGREE
  - III DEGREE

- SPREADNESS
  - DIFFUSE
SYMPTOMOCOMPLEX OF PERIODONTITIS

1. Symptomatic gingivitis
2. Periodontal pocket
3. Mobility of the tooth
4. Destruction of the bone
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Complains

1. Symptomatic gingivitis

Gum painless,
Discomfort in the gum
Bad breath

Bleeding of the gum:
- during brushing
- by bite hard food
- spontaneous
Inflammatory-dystrophic diseases of the periodontium

Generalized Periodontitis

Complains

Aesthetic defect at lowering the gums and teeth nomination

High tooth sensitive to temperature, chemical, mechanical factors

Tooth mobility
Inflammatory-dystrophic diseases of the periodontium

**Generalized periodontitis**

Complain

Loose of the tooth

The formation of heavy deposits on teeth

Change position of the tooth, diction
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Complains at exacerbation

Pain in the gum during brushing, eating

Increased gum bleeding

The appearance of the gum swelling

Appearance of ulcerous on the gum
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Complain at remission

Aesthetic defect at lowering the gums and teeth nomination

High tooth sensitive to temperature, chemical, mechanical factors
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Anamnesis of diseases

- Start of diseases—imperceptible or associated with the action of pathogenic factors:
  - Social
  - Biological
  - Physical
  - Chemical
  - Cosmic-planetary

- Connection appear signs of diseases with general nonspecific symptoms of somatic pathology

- Previous treatment (when, where, effect)

- Seasonality
Inflammatory-dystrophic diseases of the periodontium

**Generalized periodontitis**

**Anamnesis of life**

- Style of life
- Heredity (especially for women)
- Profession (place of work)
- Previous diseases, trauma, operations
- Present diseases
- Allergic anamnesis
- Bad habits
- Used drugs in past and present

weighed
Inflammatory-dystrophic diseases of the periodontium

**Generalized periodontitis**

**General objective status**

May be changes of general status, which specific for present somatic pathology

**Local objective status**

- ABSENCE REACTION OF REGIONAL LYMPH NODES (at chronic process, remission)
- SYMPTOMATIC GINGIVATIS (objective status corresponds form of gingivitis)
- PRESENCE OF PERIODONTAL POCKET (depth corresponds heavy)
- PATHOLOGICAL TOOTH MOBILITY
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Index estimation the condition of gingiva

Index of degree inflammation in gum
- PMA (1960)
- Sillness-Loe (1963)
- Russel (1956)
- Ramfjord (1974)
- SBi – gum bleeding (1958)
- PBI – papillae bleeding (1977)
- Probe Shiller-Pissarev

Index of degree the destruction of periodontium
- Ramfjord (1959),
- Sandler-Stahl (1957),
- Miller – gum recession (1985)
Write of periodontogramm
Write of periodontogramm
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Additional methods

Bone tissues of periodontium in normal
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Additional methods

I degree
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Additional methods

II degree
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Additional methods

III degree
Inflammatory-dystrophic diseases of the periodontium

**Generalize periodontitis**

**Additional methods**

**Probe of Rotter**
- Hypovitaminosis of vitamin C

**Biochemical analysis of blood**
- The severity of the changes appropriate to the type of somatic disease

**Clinical analysis of venous blood**

**Cytomorphometry**

**Probe of Yasinovsky**
Inflammatory-dystrophic diseases of the periodontium

Generalized periodontitis

Additional methods

Estimate of mineral metabolism and hormones regulation of calcium

- Number of calcium, magnesium, phosphorus, serum
- Parathyroid hormone
- Calcitonine
- Calcitriol
- Lime acid
- Free oxyproline

Changes in bone metabolism markers of bone formation and resorption

- Bone alkaline phosphatase
- Osteocalcinum
- Dezoxypyridinoline
Inflammatory-dystrophic diseases of the periodontium

**Generalized periodontitis**

Additional (functional) methods

- Reoparodontography
- Laser Doppler flowmetry
- High-frequency ultrasound
- Doppler
- Capillaroscopy, contact biomicroscopy
- Probe of Kulagenko

- Ultrasonic ehoosteometriya
- Densitometry (X-ray, ultrasound)
Inflammatory-dystrophic diseases of the periodontium

**Generalized periodontitis**

**Additional (microbiological methods)**

**I, II degree with small exudation from PP**

Anaerobic microflora with dominated of peptostreptokokkov

(Peptostreptococcus sp., Porfiromonas sp., Actinomyces sp., Fusobacterium sp.)

**III degree with big exudation from PP**

The predominance of aerobic coccal flora and facultative anaerobic asociacion

(Strept. pyogenes, mitis, Staph. aureus, Strept. Epidermidis)
Regularities clinical periodontal changes in somatic diseases

- Generalized character of inflammatory-dystrophic process in periodontium
- The severity of generalized periodontitis determined by the severity of somatic pathology
- Severe clinical generalized periodontitis (subjective and objective)
- Faster progression of periodontal disease
Regularities clinical periodontal changes in somatic diseases

- Frequent exacerbation of the process in the periodontium, which correlate with exacerbation of somatic pathology
- Increasingly acute periodontal disease precede exacerbations of somatic disease
- The inefficiency of 'traditional' treatments
- The low level of oral hygiene
**Dystrophic diseases of periodontium**

**Periodontosis** – the diseases of periodontal tissues (secondary) which characterizes by primary dystrophic changes which have general increase of alveolar part of the bone and have gum recession without inflammatory process.

- **COURSE**: chronic
- **SPREADNESS**: diffuse
- **STAGE**: INITIAL, I STAGE, II STAGE, III STAGE
Dystrophic diseases of periodontium

Periodontosis

Complains

- Itching, burning, "aches" in different parts of the jaw
- Hypersensitivity of the teeth, the appearance of defects on the tooth
- Aesthetic defects by lowering gums (II degree)
- Mobility and dislocation of the tooth (III degree)
Dystrophic diseases of periodontium

**Periodontosis**

**Anamnesis of diseases**

- Start of disease—imperceptible or associated with the action of pathogenic factors:
  - Social
  - Physical
  - Biological
  - Cosmic-planetary

- Connection appear the signs of diseases with general nonspecific symptoms of somatic pathology

- Previous treatment (When, where, effect)

- Seasonality (not typical)
Dystrophic diseases of periodontium

- Style of life
- Heredity
- Profession, place of work
- Previous diseases, trauma, operations
- Present diseases (cardiovascular diseases)
- Allergic anamnesis
- Bad habits
- Used drugs in past and present
Dystrophic diseases of periodontium

**Periodontosis**

**General objective status**

May be changes of general status, which typical for present somatic pathology

**Local objective status**

- Absence reaction of regional lymphatic nodes
- Absence inflammation of the gum (pallor, density, thickening)
- Present gum recession
- Present non-carious defects
- Pathological tooth mobility (in II, III degree)
- Present supragingival dental calculus (in II, III degree)
Dystrophic diseases of periodontium

Periodontosis

Index estimation gum condition

Index of degree inflammation in gum
- PMA (1960)
- Sillness-Loe (1963)
- Russel (1956)
- Ramfjord (1974)
- SBi – gum bleeding (1958)
- PBI – papillae bleeding (1977)
- Probe Shillarev-Pisarev

Index of degree the destruction of periodontium
- Ramfjord (1959),
- Sandler-Stahl (1957),
- Miller – gum recession (1985)
Dystrophic diseases of periodontium

Periodontosis

Additional methods
Dystrophic diseases of periodontium

**Periodontosis**

**Additional methods**

- **Probe of Rotter**
  - Hypovitaminosis of vitamin C
- **Biochemical analysis of blood**
- **Clinical analysis of venous blood**
  - The severity of the changes appropriate to the type of somatic disease
- **Cytomorphometry**
- **Probe of Yasinovsky**
- **Microbiological diagnostic**
Dystrophic diseases of periodontium

**Periodontosis**

**Additional methods**

Estimate of mineral metabolism and hormones regulation of calcium

- Number of calcium, magnesium, phosphorus, serum
- Parathyroid hormone
- Calcitonine
- Calcitriol
- Lime acid
- Free oxyproline

Changes in bone metabolism markers of bone formation and resorption

- Bone alkaline phosphatase
- Osteocalcin
- Dezoxypyridinoline
Dystrophic diseases of periodontium

Periodontosis

Additional (functional) methods

- Reoparodontography
- Laser Doppler flowmetry
- High-frequency ultrasound
- Doppler
- Capillaroscopy, contact biomicroscopy
- Probe of Kulagenko

☑ Ultrasonic ehoosteometriya

☑ Densitometry (X-ray, ultrasound)
Idiopathic progressive periodontal disease

Generalized loss of periodontal tissue (secondary) with progressive bone lysis

1. Diseases of blood
2. Histiocytosis X
3. Diseases associated with impaired metabolism
4. Periodontal lesions in immunodeficient states
5. Periodontal lesions in congenital diseases
Idiopathic progressive periodontal disease

Generalized loss of periodontal tissue (secondary) with progressive bone lysis

Occur most often in young children, progresses through puberty. May occur in adults

Aggressive type of periodontal tissue lysis is accompanied by loss of teeth for 2-3 years

The clinical picture is similar to the exacerbation of generalized periodontitis

Problem of periodontal tissue of both jaws
Idiopathic progressive periodontal disease

Generalized loss of periodontal tissue (secondary) with progressive bone lysis

- The disease occurs with damage to internal organs and the corresponding changes in laboratory parameters

- Characteristic X-ray - a tendency to funnel-shaped type of bone resorption of the alveolar process, osteoporosis, bone

- Radiographic bone changes ahead clinical

- Resistant to conservative treatment
Idiopathic progressive periodontal diseases

3. Diseases associated with impaired metabolism

Type 1 diabetes (insulin-dependent)

- V anaerobic flora in the gingival coniche
- Aggressive course of periodontitis with abscess formation
- Pronounced suppuration of the pockets
- V granulation tissue in pockets
- Significant loss of periodontal tissue in a short period
  
  +
  
  - Xerostomia
  - Halitosis
  - Erosion of enamel, wade-shade defects
  - High intensive of caries
  - Catarrhal stomatitis
  - Candidosis of oral cavity
3. Diseases associated with impaired metabolism

**Type 2 diabetes (non-insulin dependent)**

- **Compensated form of diabetes**
  - *Latent way*
  - Prevalent aerobic microorganisms in gingival

- **Noncompensated form of diabetes**
  - *Progressive way*
  - A mixed aerobic-anaerobic microflora in gingival

High speed and number of mineralized dental plaque form

(A.A. Гударьян, 2010)
Parodontomy

Productive processes in periodontal tissues (nonmalignant and malignant)

Epulis – hearth proliferation of connective tissue on the gums or in the thickness of the jaw
Thank you for your attention!