ETIOLOGY, PATHOGENESIS AND CLASSIFICATION OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION. PERIODONTITIS - ETIOLOGY, PATHOGENESIS, CLINICAL PICTURE, DIAGNOSIS, CAUSES OF EXACERBATIONS OF CHRONIC PROCESSES. SURGICAL METHODS OF TREATMENT:

APYKOTOMY, AMPUTATION, HEMISECTION, REPLANTATION, TRANSPLANTATION.

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Lecture plan:

1. Etiology and pathogenesis of inflammatory processes of the maxillofacial region.
2. Classification of inflammatory processes in the maxillofacial region.
3. The structure of the periodontium and its functions.
4. Classification of periodontitis.
5. Clinic, diagnosis and treatment of acute periodontitis.
6. Chronic periodontitis clinical manifestations, diagnosis.
7. Surgical methods of treatment of chronic periodontitis.

Causes of an increase in the number of patients with inflammatory diseases CLASSIFICATION OF INFLAMMATORY DISEASES

1. Late application for medical care, which is associated with inadequately active sanitary education among the population.
2. Medical errors committed in the prehospital period of treatment and self-treatment of patients.
3. Established stereotype in the appointment of drug therapy.
4. Late diagnosis of diseases, developed complications and wrong treatment tactics.
5. Change in the species composition of pathogens and decrease in the reactivity of the patients.

THE ETIOLOGY OF INFLAMMATORY DISEASES CLASSIFICATION OF THE MAXILLOFACIAL REGION

1. Late provision of therapeutic care.
2. More than 140 microorganisms in the oral cavity.
3. Odontogenic and dentogenic origin.
4. To create an inflammation zone, strains of microorganisms with a certain virulence are necessary.
5. Inflammation occurs at a certain concentration 109 - critical mass.
6. The effect of microorganism toxins:

- chronosepsis (chrono-toxication);
- allergization - with repeated introduction of microorganisms - hyperergic reaction.

Pathogenesis of inflammatory diseases of the maxillofacial region

The destruction of cells (labrocytes, basophils, etc.)

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When cells are destroyed, inflammatory mediators are released

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The permeability of the vascular wall increases

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Increased blood supply

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Swelling and impaired function

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Increased afferentation to the cerebral cortex

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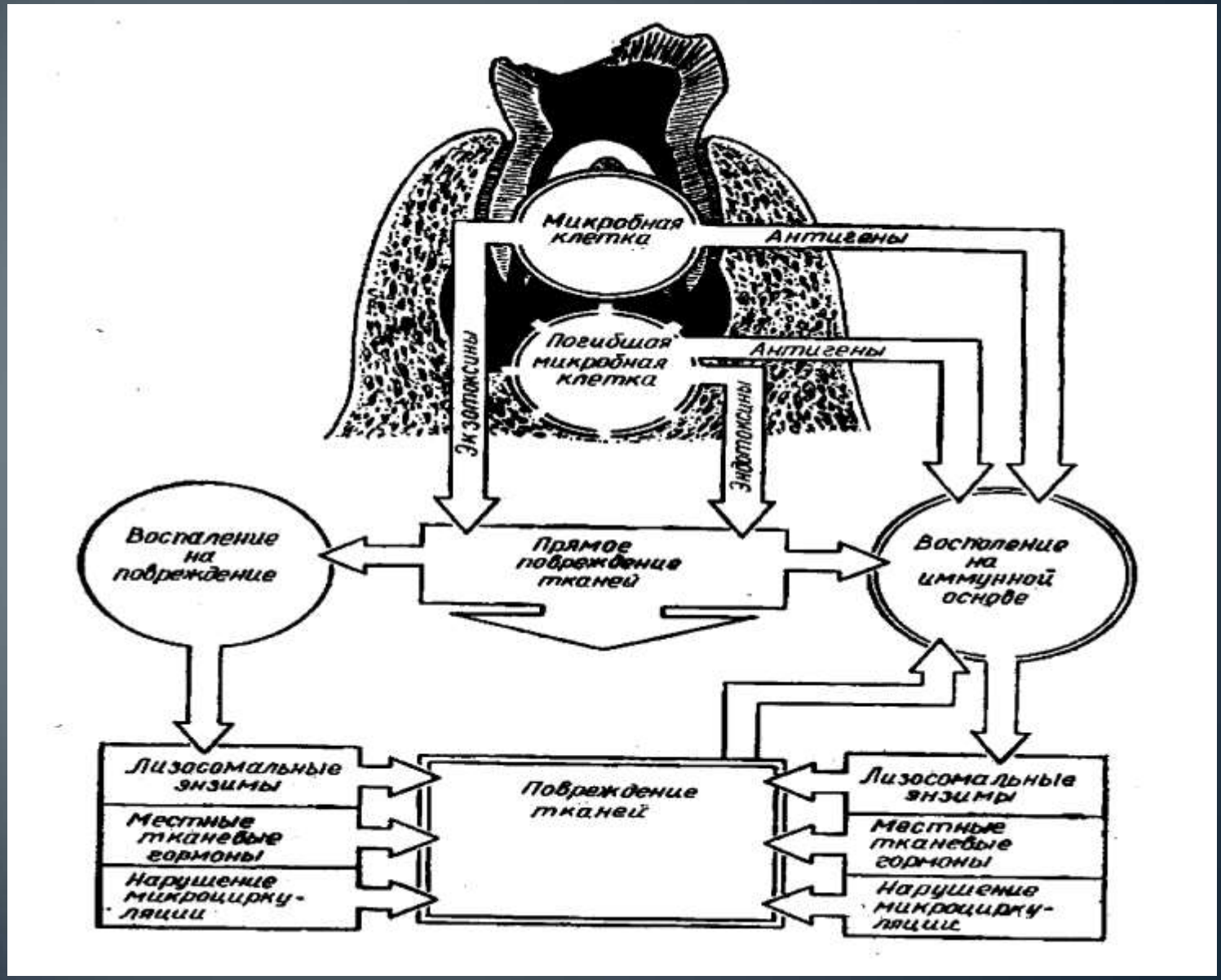
Pain

Etiology and pathogenesis of inflammatory diseases of the maxillofacial region



CLASSIFICATION OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION

Odontogenic and stomatogenic

- Periodontitis
- Periostitis of the jaws
- Osteomyelitis of the jaws
- Abscesses and phlegmon
- Nonspecific lymphadenitis
- Sinusitis

CLASSIFICATION OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION

Non-odentogenic

- Furuncle and carbuncle of the face
- Hematogenous osteomyelitis
- Traumatic osteomyelitis
- Sialadenitis
- Arthritis TMG
- Abscesses and phlegmon
- Lymphadenitis

CLASSIFICATION OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION

Specific

Actinomycosis

Tuberculosis

Syphilis

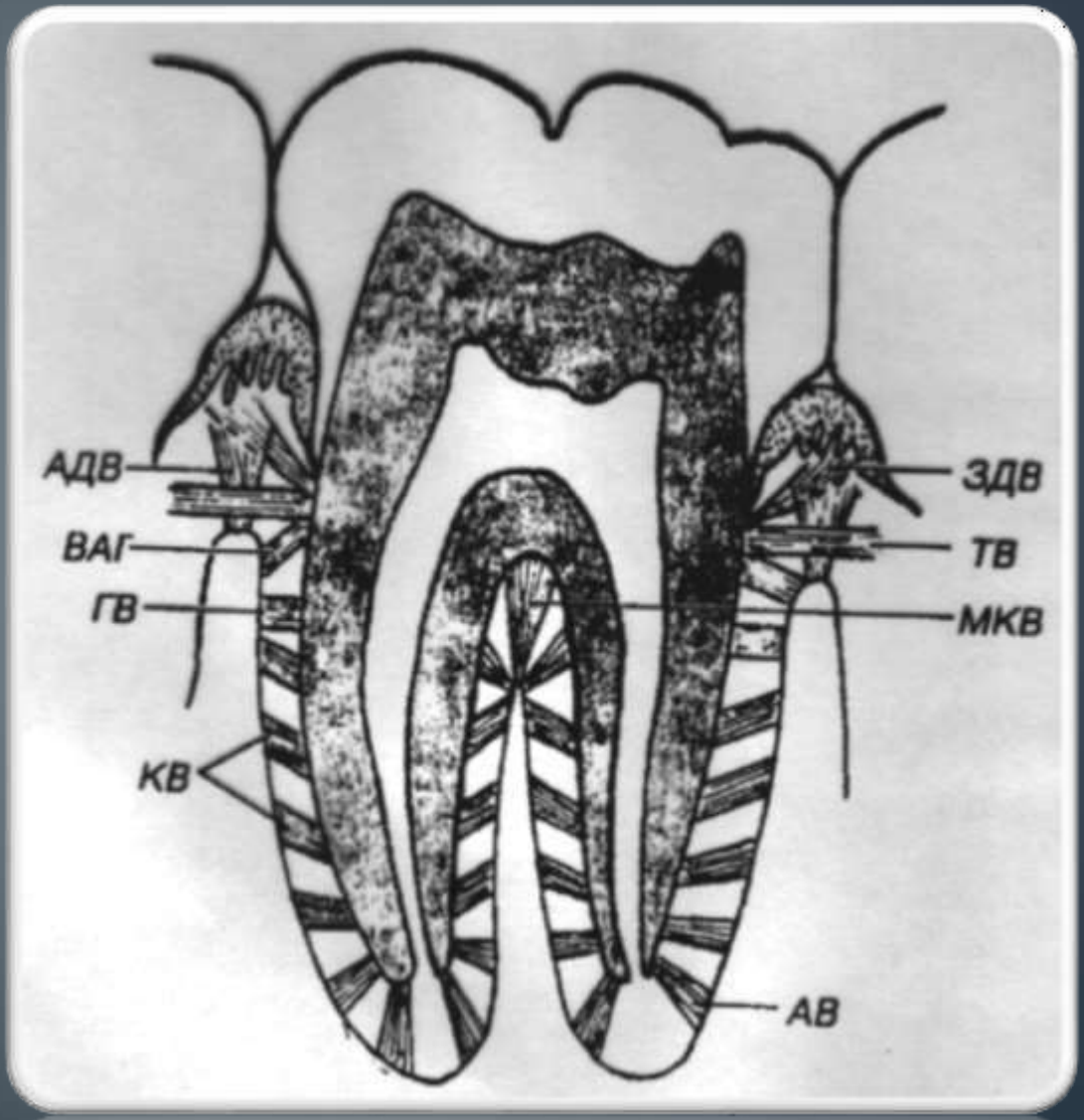
Periodontium is a connective tissue formation that fills the periodontal gap. On the one hand, periodontium is limited by the cement of the root of the tooth, and on the other - by the internal compact plate of the alveoli.

The width of the periodontal gap on the lower jaw is somewhat smaller

(0.15-0.22 mm) than at the top (0.20-0.25 mm).

In connection with the pathological process, the width varies. With increased load on the tooth, there is a thickening of the periodontal and a change in the bone structure of the socket, which often leads to an expansion of the periodontal gap.

PERIODONTITIS IS AN INFLAMMATORY PROCESS THAT AFFECTS PERIODONTAL TISSUES AND SPREADS TO ADJACENT BONE STRUCTURES.


АДВ
ВАГ
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АВ

FUNCTIONS OF THE PERIODONT

BARRIER, protecting the bone tissue of the jaw from penetration of harmful agents (microorganisms, toxins, medicinal substances).
FIXING function of periodont due to the circular ligament, interalveolar and apical fibers. The ligamentous apparatus provides physiological mobility of the tooth.
AMORTIZING functions are periodontal collagen, reticular and elastic fibers, as well as blood and lymphatic vessels.
TROPHIC function - nutrition of the cement of the tooth and the compact plate of the alveolus is due to a considerably developed network of vessels and nerves.
REFLEXOGENIC periodontal function - recipes give signals to the chewing muscles, and the force of the masticatory pressure on the teeth is regulated.

CLASSIFICATION OF PERIODONTITIS

The most widespread classification was G.I. Lukomsky (1955), which includes the following forms of the disease:

1. Acute periodontitis:
    a) serous (limited and diffuse);
    b) purulent (limited and diffuse).
2. Chronic periodontitis:
    a) granulating;
    b) granulomatous;
    c) fibrous.
3. Exacerbation of chronic periodontitis.

Depending on the localization of the pathological process in periodontium, there are:

Apical (apical) periodontitis, in which inflammation develops between the tip of the root of the tooth and the wall of the alveoli;

Marginal (marginal) - inflammation starts from the edge of the gum.

Diffuse periodontitis.

In the chronic course of periodontitis, two active forms are distinguished:

Granulating. Granulomatous.

As the dissemination of inflammation:

Local.

Diffuse.

Apical granulomatous periodontitis, depending on the localization of the granuloma at the root, can be:

Strictly apical - the penetration of infection through the central apical opening.

Apicolateral - simultaneous infection through the main apical opening and its deltoid branch.

Lateral - the infection enters to the periodontium through one of the branches of the root canal.

ETIOLOGY AND PATHOGENESIS

Periodontitis in the overwhelming majority of cases has an infectious origin and arises under the influence of nonspecific pathogens, most often staphylococci, acting alone or in combination with another microflora.

Infection penetrates into the periodontium through the root canal, the bottom of the gingival pocket, by hematogenous and lymphogenous pathways, by continuation.

CLINIC

Acute serous periodontitis

- there are aching, unsharp-marked pains in the tooth, intensifying when biting;
- pain usually does not radiate;
- patients correctly indicate the location of the affected tooth;
- the face is symmetrical, the opening of the mouth is free;
- with prolonged pressure on the tooth (closing jaws), the pain subsides somewhat;
- no swelling of the soft tissues;
- regional lymph nodes increase slightly, slightly painful;
- There is a small tooth mobility and positive vertical percussion.

In acute serous periodontitis, there is no change on the roentgenogram, but if there is an exacerbation of chronic periodontitis, then on the roentgenogram we see previous pathological changes. There are no general changes in acute serous periodontitis, a blood test, too, does not give reliable deviations from the norm.

Acute purulent periodontitis

- the intensity of pain increases;
- the pain becomes acute, pulsating, radiating along the branches of the trigeminal nerve;
- Sharp pains occur with any touch to the tooth, which becomes mobile;
- the patient notes that the tooth seems to "grow up";
- the patient's mouth is half open;
- the mucous membrane of the alveolar process hyperemic, edematous, painful within the causative tooth, can be infiltrated;

Acute purulent periodontitis

- there is edema of the soft tissues of the maxillofacial region.
- regional lymph nodes are enlarged, painful;
- suffers from a general condition due to sleep and eating disorders, weakness, malaise, fever and other symptoms of intoxication may appear;
- in blood tests, leukocytosis, a stab-shift leftward, accelerated ESR was noted.

On the roentgenogram with purulent periodontitis there are no changes - the periodontal cleft is not changed, the destruction of bone tissue is not detected. Only in some cases on 3-5 days from the onset of the development of the disease there may appear an indistinct compact disc.

DIFFERENTIAL DIAGNOSIS

When pulpitis pains acute, paroxysmal, more often at night, the percussion of the tooth is less painful, there are no inflammatory changes in the peri-mandibular soft tissues. Helps in conducting differential diagnostics of electrodontometry.

TREATMENT

Treatment of acute periodontitis:

-Creation of outflow of exudate from the periapical area, which leads to the subsidence of acute inflammatory phenomena;

-Symptomatic treatment;

-physiotherapeutic procedures (rinses, UHF in an athermal dose).

CHRONIC PERIODONTITIS

GRANULATING PERIODONTITIS: is an active form of inflammation characterized by frequent exacerbations:

- complaints about periodically appearing painful sensations in the area of the affected tooth;
- pain may be absent;
- from anamnesis it is clear that the given tooth bothers the patient for a long time;
- In the beginning, the pain has a paroxysmal character, intensifying with nibbling and swelling of the gums;
- Objectively on the alveolar process of the jaw, in the region of the affected tooth, it is usually possible to detect a fistulous course with a purulent discharge (fistula localization is different);

GRANULATING PERIODONTITIS

- around the mouth of the fistulous course, there is often a proliferation of bleeding granulations of pink color.
- the mucous membrane of the gum in the region of the affected tooth is edematic, hyperemic.
- a symptom of "vasoparesis" is characteristic.
- a painful infiltration is probed in the projection of the apex of the root.

X-RAY DIAGNOSTICS

- In the bone at the tip of the root of the tooth, there is a site of resorption of bone tissue with uneven and fuzzy contours;
- sometimes there is partial resorption of the root of the tooth;
- destruction of bone tissue sometimes extends to the alveols of adjacent teeth;
- granulating periodontitis of multi-rooted teeth leads to resorption of the inter-root bone septum;
- Sometimes the roots of the teeth are visible against the background of the osteolysis of bone tissue, which does not have clear boundaries.

PATHOMORPHOLOGICAL PICTURE

- when examining the removed tooth in separate parts of the root, fragments of granulation tissue of dark red color are visible, the root surface is rough;
- microscopic growth of granulation tissue at various stages of its maturation is detected;
- Resorption of bone tissue and hard tissues of the tooth root is observed.

Granulating periodontitis is the most typical and threatening focus of odontogenic infection, from which microorganisms and the products of their vital activity enter the body, causing it to sensitize.

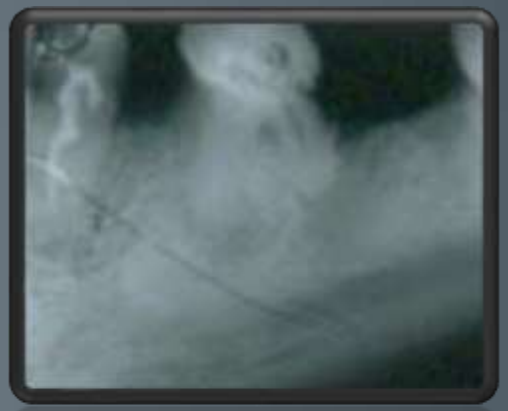
In the clinical course is extremely dynamic, remissions are short, asymptomatic periods are very rare.

GRANULEMATOUS PERIODONTITIS

- is characterized by the formation of granulation tissue and its surrounding connective tissue (fibrous) capsule, which is a kind of protective barrier on the way to penetration of microbes, toxins and degradation products into the body.
- a long time is asymptomatic;
- Malevich's symptom of a "cracked pot" - with percussion a "dull" sound;
- there is a subperiosteal granuloma;
- in the projection of the apex of the tooth root, the granuloma can be palpated in the form of a clearly delineated, dense, painless formation with a smooth surface.

X-RAY DIAGNOSTICS

at the top of the tooth root is found the focus of destruction of bone tissue, which has a rounded shape and indistinct flat edges;


THERE ARE GRANULOMAS:

- Apical - it is localized strictly at the apex of the root,
- lateral - on the side of the root,
- apicalateral - on the side of the apex of the root.

- the tops of the roots of teeth facing the granuloma are often resorbed.

- In multi-rooted teeth, the granuloma can be located in the place of deltoid branching of the root canal - the inter-root granuloma.

- the diameter of the granuloma usually does not exceed
0.5 cm.

CHARACTERISTICS OF TOOTH GRANULOMAS

- in appearance it looks like a bag of spherical or oval shape.
- is surrounded by a dense shell with a smooth surface and one edge can be tightly soldered to the root of the tooth;
- distinguish simple, complex and cyst-like granulomas.

A simple granuloma consists of a maturing granulation tissue that is delimited around the periphery by a fibrous capsule.

- in a complex granuloma, the growth of the epithelial cords can be observed.
- In vacuolar degeneration and decay of epithelial cells in the central parts of the granuloma, a cavity is gradually formed, lined with the epithelium of the cyst-like granuloma (cystogranuloma). Further increasing it often leads to the formation of cysts of the jaws.

FIBROUS PERIODONTITIS

- develops as the outcome of an acute inflammatory process in the scar;
- macroscopically periodontium thickened, dense, there is proliferation of fibrous tissue;
- explained (excessive) cement formation at the root of the tooth is observed, which causes hypercement;
- clinical symptomatology in this form of the disease is absent.

DIAGNOSTICS

The diagnosis is made on the basis of radiography:

- widening or narrowing of the periodontal gap;
- Uneven outlines of the periodontal gap;
- it is possible ossification (a gap is absent) - hypercytogenesis is revealed;
- The bone plate of the alveoli is often sclerosed, thickened.

EXACERBACION OF CHRONIC PERIODONTITIS

Granulating periodontitis, less often granulomatous, is more often aggravated. The clinical signs of aggravation of both forms are similar:

- in the beginning there is a pain in the tooth region, which increases with nibbling;
- the intensity of pain increasesrapidly, it irradiates along the branches of the trigeminal nerve;
- bols can spread to the temporal region, ear, eye, occiput.
- light touch to the tooth strengthensit, chewing food becomes impossible
- when the molars of the lower jaw are affected, it becomes difficult to open the mouth;
- the further spread of the inflammatory process causes contracture of the lower jaw. Often in these cases, pain occurs when swallowing.
- - the first day of exacerbation, the body temperature rises, weakness develops, sleep is disturbed, some of them have chills. On the 2nd day the swelling of the soft tissues around the pathological focus is expressed quite clearly, the regional lymph nodes are enlarged in size, painful.

SURGERY

"From simple to complex"

- removal of a tooth;
- resection of the apex of the root;
- tooth replantation;
- hemisection and amputation of the roots of premolars and molars;
- coronary-radicular separation.

RESECTION OF THE ROOF OF THE ROOT

(apicoectomy, granulomectomy)

TARGET- to eliminate the chronic pathological focus in the bone, keeping the tooth.

It is often performed on single-root teeth, less often on small and large molars.

INDICATIONS:

fracture of the upper third of the root;

- sparing of the apex of the root, preventing the implementation of zapekalnoy therapy;

- a fracture of the instrument in the root canal;

-the lack of success from zapekalnoy therapy;

-excess introduction of filling material and its distribution under the periosteum;

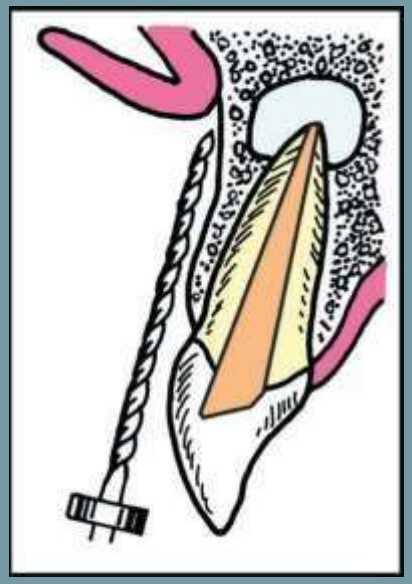
subperiosteal granulomas; crooked cysts, in the cavity of which there are the tips of the roots of the teeth.

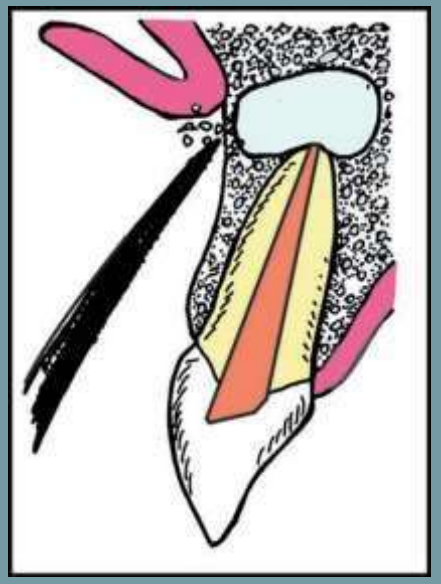
CONTRAINDICATIONS:

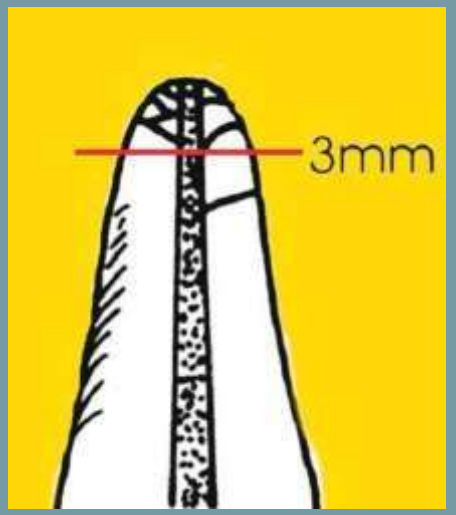
- parodontitis;
- acute and exacerbated chronic periodontitis;
- mobility of the tooth;
- exposure of the anatomical neck of the tooth;
- involvement in the pathological process of more than one- third of the tip of the tooth with cysts;
- apicalateral and lateral granulomas;
- discoloration of the root of the tooth;
- Absence of a part of the anterior wall of the alveoli;
- elderly patient.

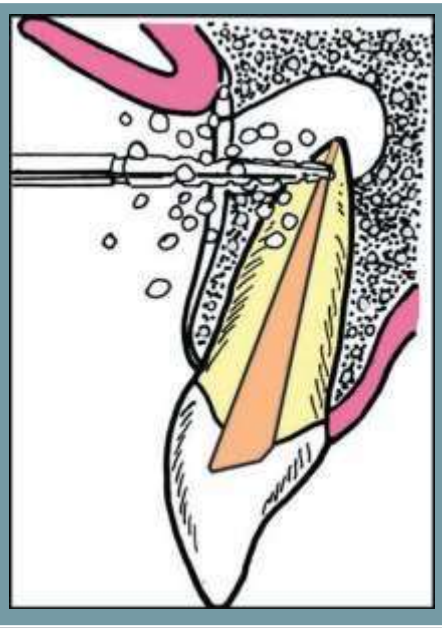
STAGES OF OPERATION:

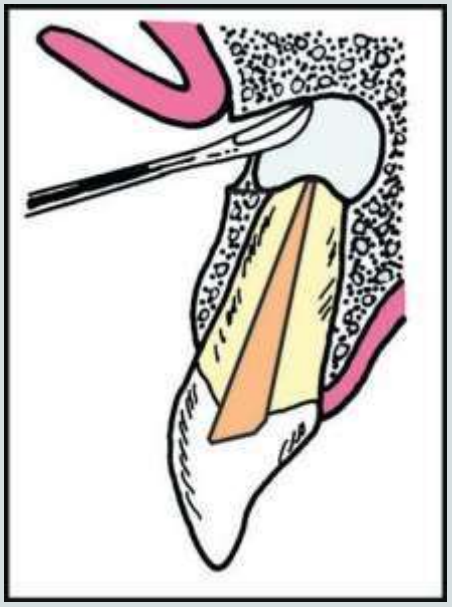
- Therapeutic training on the day of surgery. Filling of the tooth.
- Adequate anesthesia (conductive + infiltrafion anesthesia with vasoconstrictor).
- The incision line should go higher (for n / h) or higher (for per hour) of the bone cavity.
- Skeletal mucosa-periosteal flap.
- Determination of apex by echoosteometry.
- Perforation of the outer cortical plate in the apex projection (at low speed, hard alloy boron).
- Exposure of the affected area.
- Scraping of the granulation tissue.
- Circumcision of the site along the bottom of the cavity.
- Filling with hydroxyapatite.
- Laying the flap in place.
- Sewing a wound.

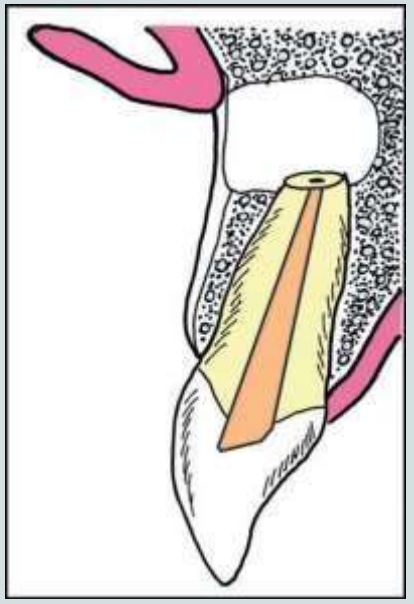


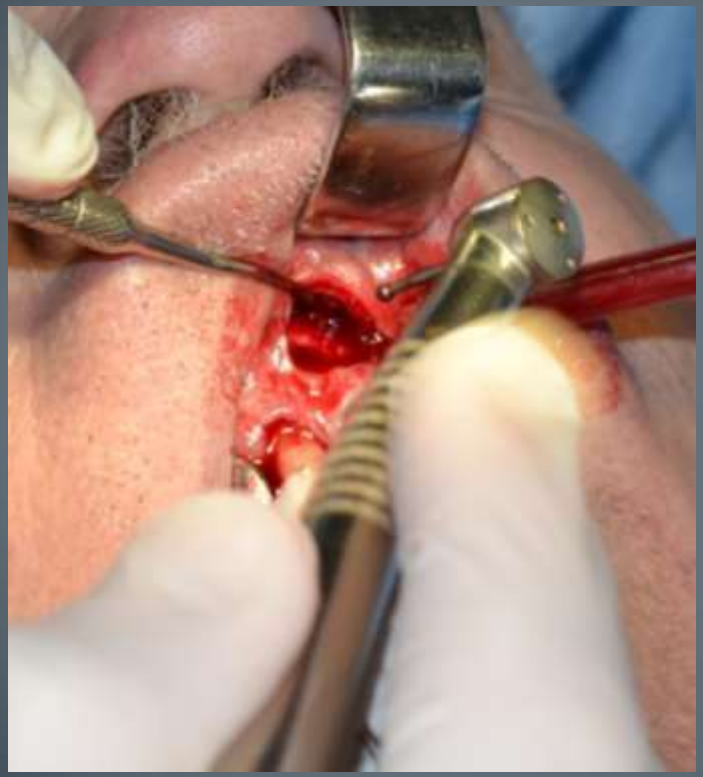


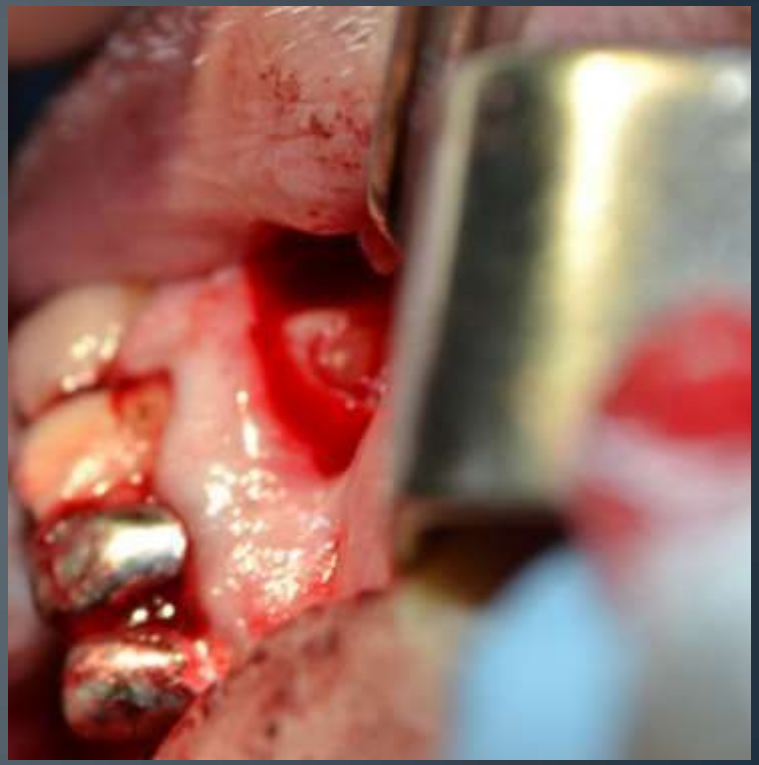












REPLANTATION OF THE TOOTH

Under the implantation of the tooth is understood the transplantation of the removed tooth into its same alveolus.
INDICATIONS: with unsuccessful conservative treatment of chronic periodontitis.

CONTRAINDICATIONS:

- the same as for the resection of the apex of the root, but during the re-implantation they are refined immediately after the extraction of the tooth from the socket.
- the absence of non-mineralized cement on the root of the tooth and the appearance of sections of a round or oval shape of yellow on it;
- diseases that inhibit the regeneration of bone tissue.

First tooth replantation applied
Amburose Pare

The stages of the operation are described by Kozlov

Removal of a tooth.
Treatment of the removed tooth.
Performing resection of the apex of the root.
Putting the tooth in his own hole.

DIFFERENT 3 REAPLATION TYPES:

Immediate
The early delayed - up to 10 days (the tooth is stored in a refrigerator at a temperature of +4 C.
Secondary delayed plastics - up to 1.5 months.

HEMISECTION AND AMPUTATION

Hemisection - removal of the root together with the crown part of the tooth adjacent to it.

Amputation - removal of the whole root while retaining the crown part of the tooth.

Indications for these surgical interventions are:

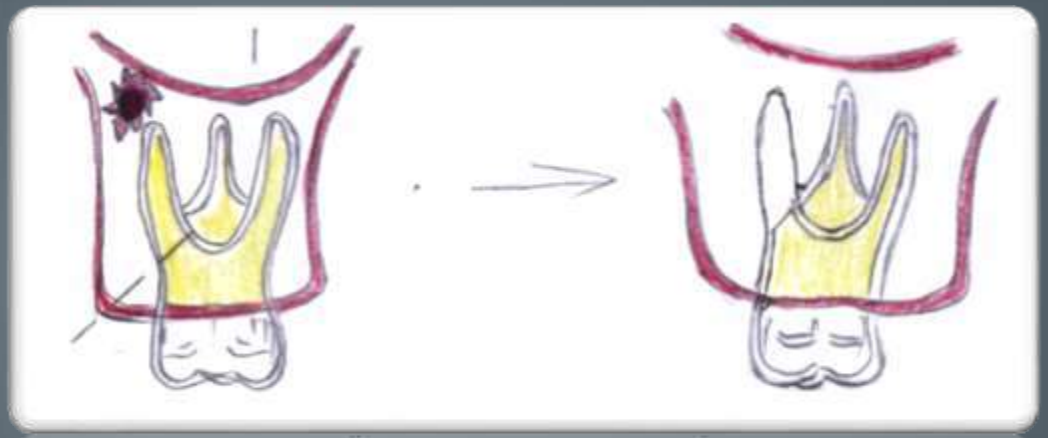
- the presence of bone pockets in the region of one of the roots of the premolar or molar;
- neck caries of one of the roots;
- fracture of the tooth root, vertical cleavage of the tooth;
- the presence of inter-root granuloma;
- It is impossible to carry out a resection of the apex of the root of the tooth.

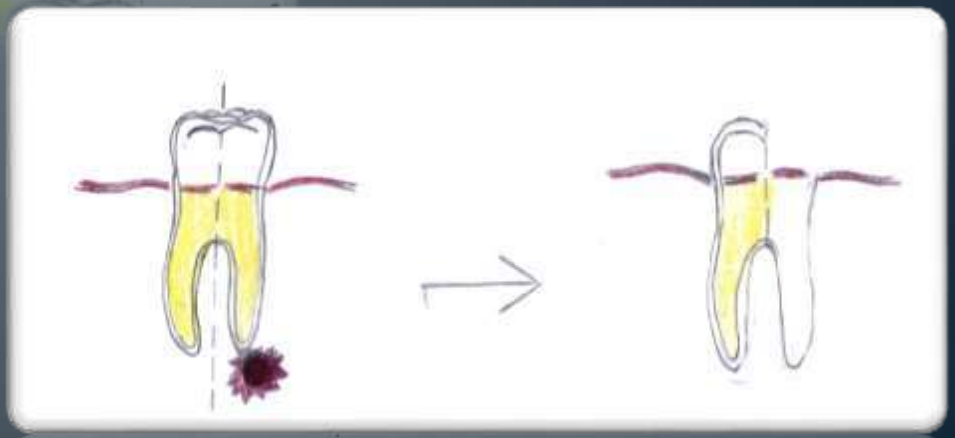
CONTRAINDICATIONS TO HEMISECTION AND AMPUTATION:

- a significant defect in the bone tissue of the well;
- the case when the tooth does not represent functional and cosmetic value;

the presence of intergrown roots, as well as acute inflammation of the oral mucosa and impassable channels of the roots of the teeth to be preserved.

Schematic depiction of amputation of the tooth root and hemisection of the tooth.





Hemisection

CORONARO-RADICALLULAR SEPARATION

Under-coronary separation radicular be understood tooth cut into two parts (used in the treatment of mandibular molars) in the bifurcation region, followed by thorough smoothing overhanging edge holding region curettage mezhkornevyh pathological pocket and the coating of each of the crown root segments.

INDICATIONS:

- presence of inter-root granuloma of small size;
- Perforation of the bottom of the pulp chamber with destruction of the top of the inter-root septum.

CONTRAINDICATIONS:

- with pathological processes in the area of the inter-root septum, the elimination of which can lead to the exposure of more than 1/3 of the length of the roots.