CLINICAL PRESENTATION, DIAGNOSIS OF CHRONIC FORMS OF PULPITIS. DIFFERENTIAL DIAGNOSIS

Lecture 4

1. Clinical manifestations and diagnosis of chronic fibrous pulpitis (Pulpitis chronica fibrosa)

Chronic fibrous pulpitis - is the most common form of pulpitis, which is the outcome of acute pulpitis.

People with low reactivity of the organism are sometimes a chronic fibrous pulpitis may occur without pre-symptomatic stage of acute inflammation.

Complaints:

The pains occur only at exacerbation of a chronic process. The pain comes in response to thermal, chemical and mechanical irritants, and passes immediately after the removal of the cause. The pain may occure when abrupt change the temperature.

Often, the patient has not complaints, and chronic fibrous pulpitis is detected during the inspection. Weak pains explain good drainage (connection with tooth cavity).

With the open tooth cavity the "suction" from the tooth can provoke the pain. In chronic fibrous pulpitis in the tooth there is a constant gravity.

Objective examination:

On examination revealed a deep cavity with softened dentin. The tooth can be changed in color. Visible denuded pulp grayish-brown color, swollen, pale pink with a bluish tint.

Description of the carious cavity:

The cavity of the tooth is opened at one point, probing is sharply painful.

Probing:

Probing the pulp causes slight pain and unsharp bleeding, which is gradually stopped.

Temperature probe:

The reaction to the cold - painful. When the cause of the pain goes away, pain stopped in some time.

Percussion:

Percussion - painless. Sometimes the comparative percussion helping to determine aching tooth.

Palpation:

Palpation painless.

EDI:

Electroexcitability pulp decreased - 35 uA.

X-Ray:

On the x-ray changes in the periodontium is identified in 30% of cases.

2. Clinical manifestations and diagnosis of chronic hypertrophic pulpitis (Pulpitis chronica hypertrophica)

This form of pulpitis is often found in children and young people. In the anamnesis presence of acute pain in the past. Patients complain of pain and the appearance of blood from the cavity during the chewing of solid food, or with the "suction" of the tooth.

Chronic hypertrophic pulpitis has a number of clinical features.

There are granulating shape with the opening of the cavity of a tooth, from which grows swollen bleeding granulation tissue. Pain symptoms reveals little.

Another form (formation of a "polyp" of the pulp) is a later stage. The surface of a rounded formation reddish-gray epithelium tightly fused with the underlying tissue.

Complaints:

The patient complained of bleeding from the tooth during chewing, pain in the tooth is in contact with hard food. Sometimes the patient's worries appearance of a tooth, from the cavity is "something protrudes".

Objective examination:

On examination, is determined the carious cavity, partially or completely filled with the enlarged tissue. When there is granulation form, the color of the tissue - bright red, bleeding, when probing is detected moderate pain. Polip pulp is pale-pink color (the color of normal mucosa), there is no bleeding upon probing, pain is weak, dense texture of the polyp. On the side of the painful tooth revealed abundant dental deposit, patient is not chewing by teeth of this part.

Probing:

Tissue sprawling pulp superficial probing a little pain and bleeds (granulation form).

Temperature response:

After a cold irritants will be unsharp pain, that quickly passes. The response to thermal irritant is weak.

Percussion:

Percussion - a little sensitive.

Palpation:

Palpation - painless.

EDI:

Electroexcitability pulp is reduced.

X-Ray:

On the x-ray changes in the periapical tissues are not detected.

3. Clinical manifestations and diagnosis of chronic gangrenous pulpitis (Pulpitis chronica gangraenosa)

Develops from a fibrous or chronic purulent pulpitis when pulp is contacted with the putrefactive bacteria.

Complaints:

Complaints from patients with this form of pulpitis often lacking. Can be pain from various irritants, often from hot. The pain occurs when a change in temperature. Foul smell from mouth. The tooth had pain in the past. Pain gradually passed.

During exacerbation of chronic gangrenous pulpitis patient complains of spontaneous aching with short light intervals. Hot at the same time provokes pain, but cold for a long time calms the pain. The pain is worse when biting on a tooth.

Objective examination:

- **Deep caries cavity.**
- **The color of the tooth has a grayish tint.**
- **Usually the tooth cavity is widely opened.**
- **The surface layers of the pulp dirty-gray color, do not bleed.**

Probing:

Probing painful in the deep layers of the coronal pulp and root canals. Surface probing - painless, and profound -painful.

Temperature response:

Hot irritant provoke pain

Percussion:

Percussion of the tooth is painless. With exacerbation of gangrenous pulpitis - painful percussion.

Palpation:

Palpation painless. In aggravation palpation is painful.

EDI:

Electroexcitability of pulp is reduced to 40-60 uA at first, then to 60-80 uA.

X-Ray:

Expansion of periodontal ligament and bone resorption with indistinct contours (with deep necrosis of the pulp).

4. Clinical manifestations and diagnosis of chronic concrementous pulpitis (Pulpitis chronica concrementosa)

- **The reason for this form of pulpitis are denticlis or petrifications, which are formed in the pulp tissue due to the active process of calcification. Denticlis - a special form of various shapes and sizes, that different by location: free located in the pulp self, parietal, associated with the wall of dentin, interstitial, located in the dentin.**
- **On the genesis and structure denticlis divided into highly organization: the first consists of canalization dentin, the second non-canalization dentin. In the central part of denticlis - more mineralized tissue. There is so-called core of amorphous mineral salts.**
- **Formation of petrifications connected with violation of metabolic and microcirculatory processes in the pulp tissue and should be referred to the phenomena of calcareous degeneration.**
- **Most salt deposits occurs along the major blood vessels and nerve bundles that pass in the root pulp.**

- **Focus of mineralization can occur in other parts of the pulp.**

Concrements most frequently detected in the posterior teeth at patients over the age of 40 years.

- **These structures are irritates the nervous system and the pulp tissue,**

leading to chronic inflammation. Having denticlis can be both a cause and a consequence of degenerative changes in the pulp.

- **Often concrementous pulpitis occurs in the teeth with high abrasion**

solid tissues, or in the teeth treated in the past about tooth decay. Sometimes concrementous pulpitis is detected at patients suffering from periodontal disease.

- **Perhaps can development an inflammation of the pulp in intact teeth.**
- **An important in diagnostic of concrementous pulpitis is painful percussion of the tooth. It is needed to do comparative percussion with healthy tooth. Drastic change in head position can be cause paroxysmal pain.**
- **The final diagnosis was confirmed by X-ray examination that determine the presence of denticlis.**
- **Diagnosis of concrementous pulpitis is difficult.**

Complaints:

Patients complain of spontaneous attacks of severe pain, irraditated in trigeminal nerve branches. A typical night pain.

Concrementous pulpitis clinically similar with trigeminal neuralgia, so the differential diagnosis should be done carefully.
The pain attack appears at night.
From the pain of neuralgia, the pain is different intensity and a slow, gradual (over months or years), increasing frequency of attacks. During the attacks show no signs of irritation of the autonomic nervous system, characteristic of the branches of trigeminal neuralgia.
Although the trigeminal neuralgia the tooth denticlis can sometimes be a "Kurkova" trigeminal (trigger) zone. Touching this area causes intense pain.

Probing:

Probing the cavity of the tooth shows denticlis.

Temperature response:

Not typical.

Percussion:

Percussion slightly painful and can provoke the appearance of paroxysmal pain.

Palpation:

Palpation painless.

EDI:

Electroexcitability 40-60 uA.

X-Ray:

In the cavity of the tooth visible denticlis, obliteration of the pulp chamber and root canals.

5. Clinical manifestations and diagnosis of exacerbated chronic pulpitis

Each form of chronic pulpitis be can exacerbated. More often exacerbated chronic fibrous pulpitis, flowing from theclosed cavity of a tooth. Less exacerbated acute ganrenous pulpitis.

The sign of exacerbation is the appearance of spontaneous acute pain, worse at night and on different irritants.

This form of pulpitis is mistake of diagnoses in acute pulpitis, which can lead to incorrect choice of treatment.

Anamnesis have important role in diagnosis. As a disease duration, objective research data - the state of the bottom of the cavity, a body cavity of a tooth, probing, data thermometry, EDI.

Complaints:

Paroxysmal, irradiation pain, aggravated by thermal irritants.

Probing:

Painful across the bottom of the tooth cavity, painfully on the opened horns of pulp.

EDI:

Electroexcitability pulp is reduced to 60-80uA.

X-Ray:

X-Ray: Can be identified deformation (or expansion) of periodontal ligament in apical part of root.

6. Differential diagnosis of chronic fibrous pulpitis and deep caries

General:

1) The presence of a deep cavity;
2) Complaints of pain from all types of irritants.

The differences:

1) In chronic fibrous pulpitis painful reaction to a irritants does not disappear immediately after the removal of the cause, but in the deep caries - at the same time;
2) Chronic fibrous pulpitis had a connection (communication) with pulp chamber. Probing is sharply painful. The bottom of deep caries cavity dense, probing painful evenly over the bottom and the dentin-enamel border;
3) In anamnesis you can find, that in chronic fibrous pulpitis the tooth was ill before. In the deep caries, spontaneous or aching pain was not.
4) EDI: in chronic fibrous pulpitis - up to 35-40uA, and with deep caries - up to 12-18 uA;
5) X-Rays: In chronic fibrous pulpitis can identify connection the pulp chamber with a carious cavities. The periodontal ligament is sometimes the extension of the root apex. That is not in the deep caries.

7. Differential diagnosis of chronic fibrosis and chronic gangrenous pulpitis

General:

1) Asymptomatic, in some cases;
2) Pain irritants on the temperature probing;
3) The presence of a deep carious cavity, communicating with the cavity of the tooth.

The differences in the case of chronic gangrenous pulpitis:

1) The crown is darker than in chronic fibrous pulpitis;
2) Communication with the cavity of the tooth more widely;
3) Probing of the bottom of the cavity, punching holes and the orifices of the root canal painless or slightly painful, the pulp does not bleed;
4) Termical probe more on hot then on the cold, but in chronic fibrous pulpitis - on a cold;
5) EDI in chronic gangrenous pulpitis - 60-100 uA, and the chronic fibrous pulpitis - 35 - 40 uA.

8. Differential diagnosis of chronic fibrous pulpitis in the exacerbation phase and acute focal pulpitis

General:

1) The presence of a deep carious cavity;
2) A painful probing at one point;
3) Inducing a prolonged cold aching pain;
4) Spontaneous pain with a "light" intervals.

The differences:

1) The presence of irradiating pain in chronic fibrous pulpitis in the exacerbate stage, which is not in acute focal pulpitis;
2) The presence of spontaneous or prolonged aching pain from a variety of irritants in the past, but in acute focal pulpitis - there is no more than 1-2 days;
3) The caries cavity is communicated with tooth cavity. Probing is painful. But in acute focal pulpitis the tooth cavity is not opened (except for the traumatic pulpitis);
4) Acute focal pulpitis occurs at the patients with high reactivity of the organism, that is quite rare;
5) In acute focal pulpitis had no changes in the periapical tissues;
6) Percussion in acute focal pulpitis is always painless.

9. Differential diagnosis of chronic fibrous pulpitis with exacerbation phase and acute diffuse pulpitis

General:

1) Complaints on the spontaneous aching with "light" intervals, irradiat along the branches of the trigeminal nerve;
2) Chemical and thermal irritants provoke the pain;
3) Deep cavity - probing is painful;
4) Percussion may be painful.

The differences:

1) The presence of spontaneous pain in the past, chronic fibrous pulp in the exacerbate stage. Acute diffuse pulpitis may be no more than 2-14days;
2) Probing in chronic exacerbate fibrous pulpitis - painful at one point, the tooth cavity is opened. In acute diffuse pulpitis probing painful, over the bottom of the cavity and there is no communication with the cavity of a tooth;
3) In acute diffuse pulpitis cold can stoped the pain, which is not observed in chronic exacerbate fibrous pulpitis.

10. Differential diagnosis of chronic exacerbate fibrous pulpitis and acute or exacerbated apical periodontitis

General:

1) The long-term aching pain;
2) Change in the color of the tooth;
3) The presence of a deep cavity (or filling tooth);
4) Percussion is painful.

The differences:

1) With pulpitis required the presence of "light" painless periods, and in acute forms of periodontitis pain is constant, increasing over time;
2) In pulpitis - pain arises from the thermal irrtants, which is not the case with periodontitis;
3) Rreaction to percussion during exacerbation of chronic fibrous pulpitisis weak. But In acute forms of periodontitis - until the tooth hurts even touch;
4) Palpation of transitional fold is painless, but in acute forms of periodontitis transitional fold is edematous, hyperemic, painful;
5) EDI in periodontitis more than 100 uA, the pulp is loss;
6) X-ray data also help correct diagnosis. In periodontitis in the periapical tissues revealed destructive changes, with the exception of acute periodontitis in the stage of intoxication.

11. Differential diagnosis of chronic hypertrophic pulpitis and growth of papilla

General:

A common for these diseases is the appearance of the cavity, filled with the granulation tissue, probing provoke bleeding and weak pain (with the exception of the pulp polyp).

The differences:

1) **To grown papilla can push an instrument or a cotton ball out of the cavity and find its relation to the interdental papilla. Hypertrophic pulp is grows out of the hole of tooth cavity.**
2) **On the X-Ray we can see a caries cavity, which communicate with a tooth cavity.**

12. Differential diagnosis of chronic hypertrophic pulpitis and overgrown granulations from the perforation of bottom of the pulp chamber (zone of bi- or trifurcation)

General:

1) Carious cavity is filled with granulation tissue;
2) Probing of granulations provoke bleeding.

The differences:

1) Probing in zone of perforation is less painful, in contrast to chronic hypertrophic pulpitis;
2) The level of perforation often lies below the neck of the tooth, but with hypertrophic pulpitis - higher (at the level of the roof of pulp chamber);
3) The proliferation of granulation tissue from the zone of bifurcation (trifurkatsii) due to perforation of the bottom cavity of the tooth. This is a medical mistake in treatment of pulpitis and periodontitis.
4) X-Ray: is determined communication from the tooth cavity with zone of bifurcation or trifurcation. Bone loss in this area. In the cronical hypertrophic pulpitis - the changes in the periodontium is not detected;
5) EDI: In pulpitis less then 100 uA, but in periodontitis - more than 100 uA.

13. Differential diagnosis of chronic gangrenous pulpitis and chronic apical periodontitis

General:

1) Asymptomatic begining (without exacerbation);
2) Complaints about putrid smell from the cavity;
3) Painless probing of the surface layers in the cavity of a tooth;
4) X-Ray: changes in the periapical tissues.

The differences in chronic apical periodontitis:

1) From anamnesis - an inflammation of the gums and pain when biting on a tooth during an exacerbation;
2) A tooth will never respond to thermal irritants;
3) When viewed from the folds of the transition can be identified fistula, or a scar from fistula , or congestive hyperemia;
4) Probing painless in root canal. Exception: when the granulation penetrate in root canal, but in this case turundas found bright red blood, which is not typical for a gangrenous pulpitis;
5) The granulation at probing less painful than the pulp is preserved in the channel with gangrenous pulpitis;
6) EDI: more then 100 uA.

14. Differential diagnosis of chronic gangrenous pulpitis in exacerbation stage with acute diffuse pulpitis

General:

1) **The presence of long-term spontaneous aching pain without "light" periods;**
2) **Hot provokes pain, cold - is stopped;**
3) **Percussion - painful.**

The differences:

1) **In chronic gangrenous pulpitis in the exacerbate stage of the anamnesis revealed that this tooth had pain before, but in acute pulpitis diffuse in past was not spontaneous pain, as it exists no more than two weeks;**
2) **In gangrenous pulpitis caries cavity communicat with tooth cavity, but in acute pulpitis - tooth cavity is usually closed;**
3) **X-Ray: changes in the periapical tissues in gangrenous pulpitis, which is not common in acute pulpitis.**

15. Differential diagnosis of chronic gangrenous pulpitis in the exacerbate stage, and acute or exacerbated apical periodontitis

General:

1) The presence of long-term aching pain;
2) Pain when biting, painful percussion;
3) There is a communication with tooth cavity of the tooth surface probing is painless;
4) A putrid odor of the tooth;
5) X-Ray: changes in the periapical tissues.

The differences:

1) In pulpitis the pain is periodic, but in acute forms of apical periodontitis - growing, without "light" periods;
2) Biting on the tooth for this form of pulpitis is not as painful as in the acute forms of periodontitis. When we touch the tooth - will be pain;
3) Deep probing with gangrenous pulpitis is paiful, but in periodontitis - without pain;
4) In gangrenous pulpitis – pain from the hot irritant; In periodontitis – painless.
5) EDI: in the pulpitis to 100 uA, but in periodontitis - more than 100 uA.

Table. The main differential diagnosis of chronic concrementous pulpitis

Clinical signs	Diagnosis: Chronic concrementous pulpitis	Diagnosis: Tic douloureux (neuralgia)
Pain	Slowly increasing pain irradiating to the spontaneous, prolonged episodes of pain, often at night, can be provoked by thermal stimuli	Suddenly there is a short of referred pain is spontaneous, sudden, often at certain times of day. Pain occurs when you touch the skin of the face, oral mucosa, the conversation (Kurkov) tregger zones.
Electroexcitability	40-60 uA	Do not change
The reaction to percussion	Slightly painful when compared with the reaction healthy teeth	None
Radiographic changes	In the cavity of the tooth visible denticlis, obliteration of the cavity of the tooth, root canal	Radiographic changes in intact teeth missing

Table. Differential diagnosis of exacerbated chronic pulpitis.

Symptoms	Diagnosis: aggravated chronic pulpitis	Diagnosis: Acute diffuse pulpitis	Diagnosis: aggravated chronic periodontitis
Pain's Type	Paroxysmal, radiating, increasing from thermal irritant	Spontaneous, paroxysmal, worse at night from the cold, irradiation	The constant, aching, the biting on the tooth
Duration of illness	The acute period of 1-2 days. In the anamnesis of an acute pulpitis 6-12 months ago	Tooth ache 2-3 days. In anamnesis - not sick	3-5 days, a anamnesis of severe pain 1-2 years ago
Probing the cavity	Across the bottom of the painfully, painfully sharp horns of the exposed pulp	Painful over the bottom	painless
The mucous membrane of the gums gingive	Do not change	Do not change	Hyperemic, edematous, painful on palpation
Electroexcitability	60-80 uA	25-40 uA	100-150 uA
X-ray study	Slight expansion of periodontal ligament at the apex	No pathological changes	Deformation or destruction of periodontal ligament space, depending on the forms of periodontitis

The End