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# Pathological Changes in the Mucous Membrane of the Oral Cavity in Case of Mechanical Injuries

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Abstract: Treatment for traumatic lesions of the oral mucosa consists in the elimination of traumatic factors and bad habits. Medicinal herbs included in Kamistad and Stomatofit preparations have a disinfectant, bactericidal and anti-inflammatory effect, suppress the local inflammatory process, relieve irritation, reduce pain and burning, eliminate swelling and have a hemostatic effect, 'has a secret.

The mucous membrane of the oral cavity is the initial part of the digestive tract, so it is exposed to various local influences, and also reflects all physiological and pathological processes occurring in the human body.

A peculiarity of the oral cavity is that with any traumatic injury, the mucosa immediately becomes infected. The level of damage and clinical manifestations depend on the irritant, time and strength of exposure, as well as individual characteristics of the organism.

**Key words:** Types of traumatic tool by nature, mechanical; chemical; radial.

Mechanical and chemical injuries are common in childhood. Depending on the duration of the injury, its intensity and the reactivity of the body, hyperemia, swelling, desquamation of the epithelium, erosion of the mucous membrane or an ulcer may appear in the injured area.

# Depending on the depth of damage, the following are distinguished:

- interstitial bleeding hematoma (without breaking the integrity of the epithelium);
- traumatic erosion;
- decubitus ulcer.

One of the reasons for the appearance of traumatic erosion and decubitus ulcers in children in the first weeks and months of life is mainly early erupted teeth in the lower jaw. The enamel and dentin of such teeth are poorly developed, so during sucking they damage the lower surface of the tongue and the frenulum, destroy the epithelial layer and cause inflammation in the mucous membrane itself. This leads to erosion or ulceration.

Erosions and ulcers also appear when biting the mucous membrane of the cheeks and lips after anesthesia. In young children, it is often possible to observe foreign bodies sticking to the hard palate (plates made of apple cores, coins, etc.

children with increased nervous excitability often bite their tongue, cheeks, lips, ask for pens and pencils). The reason for this can also be long-term damage to the mucous membrane of the sharp edges of the teeth, the edges of fillings, hanging wires and ligatures, or wearing orthodontic appliances.

Acute mechanical injury occurs as a result of accidental biting of the mucous membrane during eating, brushing the teeth or dental intervention.

Clinic. There is a slight pain at the site of injury. With interstitial bleeding, a bluish-black hematoma is detected after 1-3 days. When the epithelium is damaged, a painful erosion is formed, the base is infiltrated, usually it quickly epithelizes. In the case of secondary infection, erosion can become a long-term non-healing wound.

With mechanical damage to the mucous membrane of the oral cavity, the general condition of the child is not disturbed, sleep is calm, body temperature is normal. Eating with defects in the upper layers of the epithelium caused by normal biting of the mucous membrane is painless, children do not complain. The doctor detects such lesions by examining the mucous membrane of the oral cavity during routine sanitation. The mucous membrane has a normal color. In places where the teeth are damaged (cheeks, lips, along the edges of the tongue), its surface is uneven, pieces of white epithelium are visible, sometimes there are small hemorrhages. In such children, palpation of the mucous membrane is usually painless. Foreign bodies stuck to the palate are covered with plaque, the mucous membrane around them is slightly swollen and hyperemic.

Traumatic erosions have an irregular shape, are covered with a thin fibrinous layer of whitishyellow color, the surrounding mucous membrane is slightly or moderately hyperemic.

A decubitus ulcer is usually one, the mucous membrane around it is swollen, hyperemic, with moderate or severe pain. The uneven edges and lower part of the wound are covered with easily removable fibrinous plaque. Regional lymph nodes are enlarged and painful. Ulcers are often located on the mucous membrane of the tongue and cheeks along the line where the teeth meet. For a long time, the edges and base of the wound become denser. Its depth can vary up to the muscle layer.

Bednar's aphtha is a specific lesion of the mucous membrane of the oral cavity in children in the first months of life. They appear in weakened, bottle-fed children with congenital diseases. The appearance of such lesions is considered to be associated with damage to the mucous membrane of the palate by the pressure of a long nipple. Erosions are located symmetrically on the border of the hard and soft palate. Their shape is round or oval, the boundaries are clear, the surrounding

mucous membrane is hyperemic. The surface of erosions is covered with a loose fibrin coating. If the mother's chest is too rough, Bednar's aphtha also appears in breastfed children. Erosions are located along the midline of the palate.

## Differential diagnosis

Differential diagnosis is carried out with tuberculous ulcer, chancroid, ulcer and necrosis in blood diseases, pemphigus. Cytological examination of damaged lesions does not show specific changes; Atypical cells are found in scrapings for blood disorders. During the cytological examination of tuberculosis, Langhans giant cells are detected. Treponema pallidum is found in scraps taken from a syphilitic ulcer. In pemphigus, acantholytic Tzang cells are present in printed smears.

Treatment. Treatment for traumatic lesions of the mucous membrane is reduced to eliminating the cause of the injury. Prematurely erupted milk teeth should be removed because... their structure is defective, they wear out quickly, and in addition to mucosal damage, they can cause odontogenic infection. Foreign bodies are removed from the mucous membrane of the palate with a spatula.

In case of injury in older children, the sharp edges of the teeth are carefully polished, the oral cavity is cleaned, the role of bad habits is explained to the child and parents. If conversations with children and parents are unsuccessful and the bad habit continues, the child should be referred to a neuropsychologist for counseling and treatment. In case of severe pain, pain relief is done by using an anesthetic. If there is a necrotic or fibrinous plaque on the erosion or wound surface, it is recommended to use proteolytic enzymes for 8-10 minutes, after which the necrotic tissue or fibrinous plaque is mechanically removed and the wound or erosion is treated with antiseptics. and keratoplasties are used.

#### Thermal damage

Etiology and pathogenesis. This is due to the effect of high temperature on the mucous membrane during accidents at home. Thermal injuries are rare in children, but can be caused by eating hot food, especially milk and broth.

Thermal damage during electrophoresis, as well as careless use of the electrocoagulator, is possible. The degree of damage depends on the temperature and duration of exposure, and the burn can be limited or diffuse, with the formation of hyperemia or blisters, up to the development of extensive deep tissue necrosis.

Clinic. The mucous membrane of the lips, the tip of the tongue and the front part of the hard palate are mainly affected. It becomes swollen, hyperemic and painful to the touch. Less often, superficial intraepithelial blisters are formed, which burst immediately. After examination, white epithelial fragments are visible on a hyperemic basis in the affected area. In more severe cases, an area of necrosis is detected, its color can be from gray-white to dark brown.

Diagnosis is based on anamnesis and objective examination of the child

Use of painkillers and keratoplasty tools, treatment with low-concentration antiseptic solutions is used. If there is a focus of necrosis, enzymes are used. In children

radiation damage

rare. They appear during radiation therapy in patients with malignant neoplasms of the maxillofacial region.

## Chemical injuries

In children, chemical damage to the mucous membrane of the oral cavity is often observed at an early age as a result of accidental consumption of acid and alkali solutions used at home.

During dental treatment, chemicals can enter the oral mucosa. Phenol, formalin, alcohol, silver nitrate, resorcin-formalin paste and mixture, arsenic paste and acid solutions for erasing enamel, taking into account the slight weakness of the mucous membrane of the oral cavity in children and the violent reaction of the body in response should be used very carefully, to his detriment.

The depth of the lesion depends on the chemical nature of the substance, its concentration and the individual resistance of the oral mucosa. Acids cause damage to a lesser depth than alkalis, because tissue proteins coagulate to form a dense scab (coagulative necrosis), and alkali causes deep liquefaction necrosis.

Treatment for combined lesions of the oral cavity, pharynx and esophagus is carried out in the ENT department or a burn center.

The severity of the lesion is determined by the concentration of the drug and the duration of its action. The mucous membrane is sharply hyperemic, necrosis occurs after a few hours / days. Necrotic tissues are saturated with fibrinous exudate, resulting in the formation of a thick film that is rejected very slowly.

Ingestion of acids and alkalis causes excessive salivation, sharp pain in the mouth, increased body temperature, difficulty breathing, and hoarseness.

## **Differential diagnosis**

A carefully collected anamnesis together with objective examination data is enough to make a diagnosis. A chemical burn should be distinguished from an allergic reaction to plastic, amalgam, or low-concentration chemicals.

Treatment. If the chemical comes into contact with the mucous membrane of the oral cavity, immediately start copious washing (rinse, irrigation) with a weak solution of a neutralizing agent or antidote. need If they are not available, rinse with water and then prepare the necessary neutralizing solution. For acid burns, 1-2% solution of sodium bicarbonate, soapy water, 0.1%

solution of ammonia (1-5 drops of 10% solution per glass of water); for burns from alkalis - 0.5% solution of lemon or acetic acid (1/4 teaspoon of 70% acid per glass of water); in case of burns with silver nitrate solution, the oral cavity is irrigated with hypertonic solution (3% sodium chloride) or Lugol's solution; in the case of a burn with arsenic paste, the affected area is treated with Lugol's solution, 1% iodinol solution or powdered with iodoform or magnesia.

After neutralizing the chemical, anesthetics are applied to the affected areas of the mucous membrane: a 10% suspension of anesthesin in peach oil or topical anesthetic. Use weak antiseptic solutions or herbal decoctions. Enzyme solutions are used to reject the thick film of fibrin.

To accelerate epithelization, keratoplasty is prescribed in the form of applications. For general treatment, a non-irritating high-calorie diet, multivitamins with trace elements, calcium preparations and antihistamines are prescribed.

# The regimen of treatment of traumatic lesions of the mucous membrane of the oral cavity

- Elimination of harmful factors and bad habits.
- use of painkillers (use of anesthetics, 5-10% anesthetic suspension in peach oil, Pansoral, Kalgel).
- use of proteolytic enzymes (trypsin, chymotrypsin, lysozyme, chymotrypsin, etc.).
- Treatment with a weak antiseptic solution (Corsodil, herbal tinctures and infusions, Stomatofit). Stomatophyte is a multi-component herbal preparation with anti-inflammatory, antiseptic and wound-healing effects. The drug is used as a mouth rinse in children from the age of 12 (7.5 ml of the drug is diluted in 50 ml of warm boiled water 3-4 times a day).
- Means that stimulate tissue regeneration (anti-inflammatory and keratoplasty means): Kamistad, sea buckthorn oil, rose oil, Vitaon, Solcoseryl dental adhesive paste. Kamistad is a gel for external use, which contains tincture of chamomile flowers, lidocaine hydrochloride and excipients. The local anesthetic contained in the drug - lidocaine hydrochloride - helps to relieve pain quickly and long-term. Chamomile flower tincture has anti-inflammatory, antiseptic and wound healing properties. Kamistad's gel base makes it easy to spread over the mucous membrane.

Instructions for use and dosage: the gel is applied to painful or inflamed areas of the oral cavity and rubbed with light massage movements 3 times a day. The drug is approved for use in children under 2 years of age.

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