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DIFFERENTIAL DIAGNOSIS OF APHTHOUS STOMATITIS AND EPIDEMIC STOMATITIS

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Abstract: This article examines the issues of differential diagnosis of aphthous stomatitis and epidemic stomatitis. The article analyzes in detail the clinical signs, course, pathogenesis and diagnostic criteria of both diseases. The differences between the single ulcers of aphthous stomatitis and the multiple mucosal lesions of epidemic stomatitis are shown.

Keywords: Aphthous stomatitis, epidemic stomatitis, differential diagnosis, mucosal diseases, oral ulcers, viral stomatitis, laboratory diagnostics, clinical signs, treatment methods, pathogenesis.

Login

Aphthous stomatitis and epidemic stomatitis are the most common diseases of the oral mucosa. Despite the similarities in the clinical manifestations of these diseases, their etiology, pathogenesis and treatment methods differ significantly. Timely and correct diagnosis of these diseases, manifested by lesions of the oral mucosa, is important. Today, improving differential diagnostic methods, improving the course of diseases and preventing complications are among the urgent issues in dentistry. Aphthous stomatitis develops mainly as a result of disorders in the immune system and often has a chronic course. Epidemic stomatitis, on the other hand, has a mainly viral etiology and, as an infectious disease, is characterized by rapid spread. This article discusses the differential diagnosis, clinical symptoms, development mechanisms and treatment methods of both diseases. The diagnostic value of modern laboratory and instrumental examination methods, the possibilities of early detection of diseases and preventive measures are also highlighted.

Main part

Aphthous stomatitis and epidemic stomatitis are diseases characterized by pathological changes in the oral mucosa. In order to differentiate these two diseases, it is necessary to analyze in depth their clinical symptoms, etiology, pathogenesis, diagnostic criteria, and treatment methods.

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Aphthous stomatitis

Aphthous stomatitis (recurrent aphthous stomatitis, RAS) is one of the most common diseases of the oral mucosa. According to the World Health Organization, 20-25% of the population suffers from recurrent aphthous stomatitis. Nikiforova (2018) states that "Aphthous stomatitis is an inflammatory disease of the oral mucosa, characterized by the appearance of self-healing ulcers on the oral mucosa."

From the point of view of etiopathogenesis, aphthous stomatitis is a polyetiological disease that develops under the influence of several factors. In the studies conducted by Mirzaeva and Rakhimov (2020), "The main factors that lead to the development of aphthous stomatitis include genetic predisposition, disorders of the immune system, micronutrient deficiencies, allergic reactions, and microbial factors." Rakhmanova (2019) concluded that "The imbalance of T-lymphocytes, impaired cytokine production, and the development of autoimmune processes against the mucous membrane play an important role in the pathogenesis of aphthous stomatitis."

Clinically, three clinical forms of aphthous stomatitis are distinguished: minor, major, and herpetiform. Otaboev and Kholikov (2021) based on clinical observations, "Minor aphthous stomatitis is characterized by superficial ulcers with a diameter of 2-5 mm, located singly, with a red inflamed border around them. Major aphthous stomatitis is characterized by deep ulcers with a diameter of more than 10 mm and ends with scarring. Herpetiform aphthous stomatitis is manifested by numerous small (1-2 mm) superficial ulcers and is clinically similar to herpes viral stomatitis."

The diagnosis of aphthous stomatitis is based mainly on clinical signs. Turdiev et al. (2022) note the following: "The diagnostic criteria for aphthous stomatitis are: the presence of painful, round or oval, white-yellow fibrinous lesions on the oral mucosa, surrounded by a red inflamed border; the lesions are most often located on the lips, tongue, gums, and floor

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of the mouth; the patient's body temperature is normal; the lymph nodes are not enlarged; the disease tends to heal spontaneously within 7-14 days; and the disease relapses."

Laboratory diagnostic methods also play an important role in the diagnosis of aphthous stomatitis. Jumaev and Sobirova (2023) noted that "In the diagnosis of aphthous stomatitis, the normal number of leukocytes in the blood, a slight increase in the erythrocyte sedimentation rate (ESR), changes in the immunoglobulin and cytokine profile are of important diagnostic importance." Scientific studies have shown that in patients with aphthous stomatitis, the concentration of IL-1 β , TNF- α and IL-6 cytokines is increased, which confirms the immunopathogenesis of this disease.

Treatment methods for aphthous stomatitis require a comprehensive approach. According to the results of a study by Saidov et al. (2021), "Anti-inflammatory, immunomodulatory, analgesic, epithelialization-enhancing, and antimicrobial drugs are used in the treatment of aphthous stomatitis." Local treatment methods for aphthous stomatitis include rinsing the mouth with antiseptic solutions (0.05% chlorhexidine solutions), analgesics (lidocaine gel), corticosteroid-containing ointments (Triamcinolone, Dexamethasone), and epithelialization-enhancing agents (Solcoseryl).

Muhammadiyev (2022) concluded in his research that "the use of immunomodulators (Likopid, Imunofan), vitamins (A, E, C), and microelements (zinc, iron, selenium) in the treatment of aphthous stomatitis helps reduce relapses of the disease and prolong the remission period."

Epidemic stomatitis

Epidemic stomatitis (herpes viral stomatitis) is a viral disease of the oral mucosa. Epidemic stomatitis is most often observed in children and people with weakened immune systems. Sodikov and Kholmatova (2019) state that "Epidemic stomatitis is mainly caused by HSV-1 (Herpes simplex virus-1) and is a rapidly spreading infectious disease."

From the point of view of etiopathogenesis, epidemic stomatitis develops as a result of the entry of a virus from the external environment. In the studies conducted by Juraev et al. (2020), "In the pathogenesis of epidemic stomatitis, the processes of virus entry, virus replication, epithelial cell damage, development of the immune system response, and virus elimination are important stages." Kuchkarova (2021), studying the pathogenesis of epidemic stomatitis, concluded that "In the pathogenesis of epidemic stomatitis, the neurotropic nature of the virus, i.e., its penetration into nerve nodes and its long-term latent state, plays an important role, which leads to relapse of the disease."

Clinically, epidemic stomatitis is manifested by specific symptoms. Normatov and Abdullaev (2020) based on clinical observations, "Epidemic stomatitis proceeds through a prodromal stage (itching, burning, pain in the oral cavity), a vesicular stage (formation of vesicles), an ulcerative stage (rupture of vesicles and formation of ulcers) and a terminal stage". Clinical signs of epidemic stomatitis include: numerous small (1-2 mm) superficial ulcers on the oral mucosa, increased body temperature (38-39°C), general weakness, headache, and enlarged lymph nodes.

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Kholikov et al. (2022) state that “The ulcers that appear in epidemic stomatitis are often small (1-2 mm), numerous and grouped, located in a single red inflamed area, painful and contagious.” These features are important in differentiating epidemic stomatitis from aphthous stomatitis.

Laboratory diagnostic methods play an important role in the diagnosis of epidemic stomatitis. Saidova and Karimov (2023) noted that "PCR (polymerase chain reaction), immunofluorescence studies and serological tests play an important role in the diagnosis of epidemic stomatitis." Scientific studies have shown that in epidemic stomatitis, an increase in the number of leukocytes in the blood, the development of lymphocytosis and an increase in the erythrocyte sedimentation rate are observed.

Treatment methods for epidemic stomatitis require an integrated approach. According to the results of a study by Karimov et al. (2021), "Antiviral, immunomodulatory, analgesic and epithelialization-enhancing drugs are used in the treatment of epidemic stomatitis." Local treatment methods for epidemic stomatitis include rinsing the mouth with antiseptic solutions (0.05% chlorhexidine solutions), analgesics (lidocaine gel), antivirals (acyclovir, penciclovir), and epithelialization-enhancing drugs (Solcoseryl).

Nuriddinov (2022) concluded in his research that "systemic antiviral therapy (acyclovir, valacyclovir) in the treatment of epidemic stomatitis helps to alleviate the course of the disease and speed up its recovery."

Differential diagnosis

Differential diagnosis of aphthous stomatitis and epidemic stomatitis is based on the following signs:

1. Etiology: Aphthous stomatitis is often associated with autoimmune and genetic factors, while epidemic stomatitis is caused by the HSV-1 virus.
2. Clinical signs: Aphthous stomatitis is characterized by single, well-defined ulcers on the oral mucosa, surrounded by a red inflamed border. Epidemic stomatitis is characterized by numerous, small, grouped ulcers located in a single red inflamed area.
3. Prodromal stage: Epidemic stomatitis has a prodromal stage (itching, burning, pain in the mouth), while aphthous stomatitis does not have this stage.
4. General condition: In aphthous stomatitis, the general condition does not change, the body temperature is normal. In epidemic stomatitis, there is an increase in body temperature, general weakness, and headache.
5. Lymph nodes: In aphthous stomatitis, there is no enlargement of the lymph nodes, while in epidemic stomatitis, there is enlargement of the submandibular and cervical lymph nodes.
6. Contagiousness: Aphthous stomatitis is not contagious, while epidemic stomatitis is considered a contagious disease.
7. Laboratory diagnosis: In aphthous stomatitis, the number of leukocytes in the blood is normal, while in epidemic stomatitis, leukocytosis and lymphocytosis are observed. In epidemic stomatitis, the virus can be detected by PCR, immunofluorescence studies, and serological tests.

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Normatova and Karimov (2022) state that "Evaluation of clinical signs, collection of anamnesis data, and analysis of laboratory test results are important in the differential diagnosis of aphthous stomatitis and epidemic stomatitis." When assessing clinical signs, the location, number, shape, size of lesions on the oral mucosa, the condition of surrounding tissues, the level of pain, and the course of the lesions are important diagnostic signs.

In their research, Safarov et al. (2023) concluded that "a comprehensive assessment of patient complaints, medical history, clinical presentation, and laboratory test results is important in the differential diagnosis of aphthous stomatitis and epidemic stomatitis."

Conclusion

Aphthous stomatitis and epidemic stomatitis are common diseases of the oral mucosa, the differential diagnosis of which is important for targeted treatment. Aphthous stomatitis is a polyetiological disease, which develops mainly as a result of genetic and immunological factors, and is manifested by single, clearly demarcated ulcers. Epidemic stomatitis is an infectious disease caused by the HSV-1 virus, which is accompanied by numerous grouped ulcers, increased body temperature, and enlarged lymph nodes.

Clinical signs, anamnesis data and laboratory tests play an important role in the differential diagnosis of both diseases. Modern diagnostic methods (immunological, virological, genetic tests) allow them to be clearly differentiated. Correct diagnosis and treatment strategy allow to alleviate the course of the disease and prevent complications.

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