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CLINICAL CHARACTERISTICS AND MECHANISMS OF DEVELOPMENT OF ORAL MUCOSAL PATHOLOGIES IN PATIENTS WITH HIV INFECTION

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ABSTRACT

This scientific article analyzes the clinical manifestations, frequency of occurrence, and mechanisms of development of oral mucosal pathologies in patients infected with HIV (Human Immunodeficiency Virus). During the study, it was determined that the main pathological changes occurring in the oral cavity are closely associated with the degree of immunodeficiency. Diseases developing against the background of HIV infection, such as candidiasis, gingivitis, periodontitis, necrotic ulcers, and leukoplakia, are considered among the early clinical signs of the disease. Timely detection and assessment of these pathologies are of great importance in monitoring the course of HIV infection.

Keywords: HIV infection, oral cavity, mucosa, clinical signs, immunodeficiency, dental pathologies.

Клиническая характеристика и механизмы развития патологий слизистой оболочки полости рта у пациентов с ВИЧ-инфекцией

АННОТАЦИЯ

В данной статье представлены результаты анализа клинических проявлений и механизмов развития патологий слизистой оболочки полости рта
у пациентов с ВИЧ-инфекцией. Установлено, что поражения полости рта являются одними из наиболее ранних клинических признаков ВИЧ-инфекции
и напрямую зависят от степени иммунодефицита. Наиболее часто выявляются кандидоз, гингивит, пародонтит, некротические поражения и лейкоплакия. Ранняя диагностика данных патологий позволяет своевременно оценить прогрессирование заболевания и повысить эффективность лечебно-профилактических мероприятий.

Ключевые слова: ВИЧ-инфекция, полость рта, слизистая оболочка, клинические проявления, иммунодефицит, стоматологические заболевания.

INTRODUCTION.HIV infection is currently considered one of the urgent problems of the global healthcare system. According to the World Health Organization, millions of people around the world live with HIV infection. This infection damages the immune system of the body and leads to the development of various secondary diseases and pathological conditions. Diseases of the

oral mucosa occupy a special place in the clinical course of HIV infection.Oral pathologies are among the first and often earliest clinical manifestations of HIV infection and reflect the patient's general immune status. Dental diseases not only reduce the patient's quality of life but may also contribute to the aggravation of the underlying disease. Therefore, an in-depth study of the condition of the oral mucosa in patients infected with HIV has important scientific and practical significance.

Relevance of the Study. Oral mucosal pathologies occurring in patients with HIV infection are among the urgent problems of modern dentistry and clinical medicine. Against the background of progressive weakening of the immune system, various inflammatory, degenerative, and infectious processes develop in the oral cavity. These pathologies often manifest even in the early stages of HIV infection and serve as important diagnostic criteria for assessing the course of the disease.

According to scientific literature, oral mucosal lesions are detected in 60–90% of patients with HIV infection at different stages of life. In particular, candidiasis, necrotic gingivitis, periodontitis, aphthous ulcers, and hairy leukoplakia are widespread. These conditions not only complicate the process of eating but also increase the risk of secondary infections.In Uzbekistan, scientific research devoted to studying the clinical characteristics of oral pathologies in patients with HIV infection has not been sufficiently conducted. Therefore, deep analysis of this problem, identification of the mechanisms of disease development, and improvement of clinical diagnostic methods are of great practical importance.

Purpose and Objectives of the Study

Purpose of the study: to investigate the clinical characteristics of oral mucosal pathologies in patients with HIV infection and determine the mechanisms of their development.

Objectives of the study:

1. To determine the frequency of oral mucosal diseases in patients with HIV infection.
2. To describe the clinical manifestations of the main dental pathologies.
3. To evaluate the relationship between oral lesions and the degree of immunodeficiency.
4. To analyze the pathogenetic mechanisms of pathologies developing against the background of HIV infection.
5. To identify and improve the main methods used in clinical diagnosis.

Analysis of Scientific Literature

In recent years, numerous scientific studies devoted to oral pathologies associated with HIV infection have been published. According to researchers, the oral mucosa is one of the most sensitive anatomical structures reflecting the condition of the immune system. Under conditions of weakened immunity, a decrease in the protective functions of the mucosa is observed, creating favorable conditions for the International studies have identified candidiasis as the most common pathology in patients with HIV infection. Active proliferation of Candida albicans fungi is directly associated with a decrease in the number of CD4 lymphocytes. At the same time, severe forms of necrotic ulcerative gingivitis and periodontitis are more frequently detected in the late stages of HIV infection.Some authors include hairy leukoplakia among the clinical signs specific to HIV infection. This pathology is often located on the lateral surfaces of the tongue and is associated with the Epstein–Barr virus. In addition, aphthous stomatitis, hepatitis-like ulcers, and pigmentation changes of the oral cavity have also been reported.Literature analysis shows that early detection of oral pathologies in patients with HIV infection contributes to improving the overall prognosis of the disease. Nevertheless, unified clinical approaches and diagnostic algorithms regarding this problem have not yet been sufficiently developed.

Materials and Methods. The study was conducted at the clinical bases of the Bukhara State Medical Institute. Patients with confirmed HIV infection participated in the study. The age of the patients ranged from 18 to 60 years, and all of them were registered in the infectious diseases department and underwent dental examination.

During the study, the patients' general clinical condition, duration of HIV infection, immunological indicators (CD4 lymphocyte levels), and the condition of the oral mucosa were assessed. All examinations were performed based on the written consent of the patients.

Clinical examination methods:

The following clinical methods were used to assess the condition of the oral mucosa:

- visual examination;
- palpation;
- assessment of the color, moisture, and elasticity of the mucosa;
- detection of pathological elements (ulcers, erosions, plaques);
- assessment of the condition of gingival and periodontal tissues.

When necessary, laboratory examinations (microbiological and cytological analyses) were also conducted.

Clinical Research Methods.A comprehensive clinical approach was used to identify oral mucosal diseases in patients with HIV infection. Initially, patients' complaints were studied. The most common complaints included burning sensation in the mouth, dryness, pain, discomfort during eating, and bleeding.During the clinical examination, the anatomical areas of the mucosa were assessed separately: lips, cheeks, tongue, palate, gingiva, and floor of the mouth. The type, location, and severity of pathological changes in each area were determined and recorded in the clinical chart.

Results. According to the study results, oral mucosal pathologies were identified in the majority of patients with HIV infection. The most common diseases were candidiasis, gingivitis, and periodontitis, and their frequency increased with the progression of immunodeficiency.In patients affected by candidiasis, white plaques, redness, and burning sensations were observed on the mucosal surface. In gingivitis and periodontitis, swelling and bleeding of the gums, as well as deepening of periodontal pockets, were noted.



Figure 1. Papillomatous growth and inflammatory signs on the oral mucosa in a patient



Figure 2. Condition after treatment: normalization of the oral mucosa and reduction of pathological

with HIV infection. changes.

Discussion. The obtained results are consistent with data presented in international literature. Weakening of the immune system against the background of HIV infection disrupts the protective mechanisms of the oral mucosa. This leads to the active proliferation of opportunistic microorganisms.The pathologies identified during the study were directly associated with the patients' CD4 lymphocyte levels, and as immunodeficiency deepened, worsening of clinical manifestations was observed.

Conclusion. The results of the conducted study showed that oral mucosal pathologies are widespread in patients with HIV infection and that their clinical manifestations are directly associated with the degree of immunodeficiency. Oral diseases are among the earliest and most important clinical signs of HIV infection and have significant diagnostic value in assessing the course of the disease.During the study, the most common pathologies identified were oral candidiasis, gingivitis, periodontitis, necrotic ulcerative processes, and leukoplakia. It was confirmed that these diseases are directly related to the duration of HIV infection and the decrease in CD4 lymphocyte levels.Clinical observations showed that oral mucosal pathologies negatively affect patients' general condition, nutritional process, and quality of life. Therefore, dental examinations should be an integral part of the comprehensive treatment and monitoring process for patients with HIV infection.

Practical Recommendations. All patients with HIV infection should undergo regular dental examinations. Assessment of the condition of the oral mucosa should be used as an important criterion in the clinical monitoring of HIV infection. For the early detection of candidiasis and necrotic processes, microbiological examinations should be widely implemented. Strengthening cooperation between dentists and infectious disease specialists improves the quality of medical care provided to patients with HIV infection. As preventive measures, special attention should be paid to oral hygiene and teaching patients hygienic skills.

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