IMMUNOLOGICAL CHANGES AND THERAPEUTIC APPROACHES IN HERPETIC STOMATITIS

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Abstract

Herpetic stomatitis is one of the most common viral diseases of the oral cavity, predominantly caused by herpes simplex virus type 1 (HSV-1). The disease is characterized by painful lesions of the oral mucosa and is often associated with immune system dysfunction. This article analyzes immunological changes observed in patients with herpetic stomatitis and evaluates modern therapeutic approaches based on immune status correction. Alterations in cellular and humoral immunity parameters were assessed, and the effectiveness of complex antiviral and immunomodulatory therapy was analyzed. The results indicate that combined therapy contributes to faster resolution of clinical symptoms and reduces the frequency of disease recurrence. An individualized therapeutic approach considering immunological changes is essential for effective management of herpetic stomatitis.

Keywords: herpetic stomatitis, immunological changes, immune response, antiviral therapy, immunomodulators.

ИММУНОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ И ТЕРАПЕВТИЧЕСКИЕ ПОДХОДЫ ПРИ ГЕРПЕТИЧЕСКОМ СТОМАТИТЕ

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Аннотация

В статье рассматриваются иммунологические изменения, наблюдаемые у пациентов с герпетическим стоматитом, а также современные

терапевтические подходы с учётом иммунного статуса. Герпетический стоматит является одним из наиболее распространённых вирусных заболеваний полости рта, преимущественно вызываемым вирусом простого герпеса первого типа. В патогенезе заболевания значительную роль играет нарушение клеточного и гуморального иммунитета, что обусловливает тяжёлое течение, затяжной характер и частые рецидивы инфекции. В ходе исследования были проанализированы показатели Т- и В-лимфоцитов, уровни иммуноглобулинов и интерферона, а также оценена эффективность комплексной терапии, включающей противовирусные и иммуномодулирующие препараты. Полученные данные свидетельствуют о том, что комбинированный терапевтический подход способствует более быстрому купированию клинических симптомов, восстановлению иммунологических показателей и снижению частоты рецидивов герпетического стоматита.

Ключевые слова

герпетический стоматит, иммунологические изменения, иммунитет, противовирусная терапия, иммуномодуляторы.

Introduction

Herpetic stomatitis is a widespread viral inflammatory disease of the oral mucosa, primarily caused by herpes simplex virus (HSV-1, less frequently HSV-2). The disease is most commonly observed in children and young adults, although it can also affect immunocompromised individuals of any age. Clinically, herpetic stomatitis manifests as painful vesicles and erosions on the oral mucosa, accompanied by systemic symptoms such as fever, malaise, and regional lymphadenopathy.

Recent studies emphasize the critical role of the immune system in the pathogenesis and clinical course of herpetic stomatitis. Following viral invasion, both cellular and humoral immune responses are activated. However, insufficient immune control may lead to severe clinical manifestations, prolonged disease duration, and frequent recurrences. In particular, impaired T-lymphocyte function, altered cytokine production, and dysregulation of the interferon system contribute to viral persistence.

Therefore, modern therapeutic strategies should not be limited to antiviral agents alone but should also address immune system dysfunction. This study aims to

analyze immunological changes in patients with herpetic stomatitis and to evaluate therapeutic approaches based on immune modulation.

Materials and Methods

This clinical observational study included 40 patients diagnosed with acute herpetic stomatitis. A control group consisted of 20 healthy individuals without oral mucosal diseases. All participants underwent comprehensive clinical examination, including assessment of oral mucosal lesions, severity of inflammation, and pain intensity.

Immunological evaluation involved the analysis of cellular immunity parameters (T- and B-lymphocytes), humoral immunity indicators (IgA, IgG, IgM), and interferon levels in peripheral blood. Patients received complex therapy, including antiviral agents, immunomodulatory drugs, and local treatment with antiseptic and antiviral preparations. Treatment effectiveness was assessed based on clinical recovery and changes in immunological parameters.

Results

The results demonstrated significant immunological alterations in patients with herpetic stomatitis compared to the control group. A decrease in T-helper cell levels and an imbalance in T-cell subpopulations were observed, indicating suppression of cellular immunity. Additionally, reduced serum IgA levels were detected in most patients, suggesting impaired local immune defense of the oral mucosa.

Following complex therapy, patients showed rapid regression of clinical symptoms, including reduced pain, faster epithelialization of erosions, and improvement in general condition. Immunological parameters demonstrated positive dynamics, with partial restoration of cellular and humoral immunity indicators.

Discussion

The findings confirm that immune system dysfunction plays a crucial role in the pathogenesis and progression of herpetic stomatitis. Suppression of cellular immunity facilitates viral persistence and contributes to disease recurrence. Decreased IgA levels compromise mucosal immunity, increasing susceptibility to secondary infections.

The results indicate that antiviral therapy alone may be insufficient for optimal disease management. The addition of immunomodulatory agents enhances immune response, accelerates clinical recovery, and reduces relapse rates. Therefore, an individualized therapeutic approach based on immune status assessment is recommended for effective treatment of herpetic stomatitis.

Conclusion

1. Herpetic stomatitis is associated with significant alterations in cellular and humoral immunity.

2. Immune imbalance contributes to severe clinical manifestations and frequent disease recurrence.

3. Complex therapy combining antiviral and immunomodulatory agents improves clinical outcomes.

4. Immune-based individualized treatment strategies are essential for effective management of herpetic stomatitis.

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