

Effective Treatment of Lichen Planus: Innovative Methods and Results

Sobirov Shukhrat Solijonovich, Inoyatov Amrillo Shodievich

Bukhara State Medical Institute, Bukhara City, Republic of Uzbekistan

Abstract Lichen planus erythematosus (CPL) is a chronic inflammatory disease affecting the oral mucosa and skin, characterized by typical papules and a reticular pattern. Traditional methods of treating CPL include the use of topical corticosteroids and antihistamines, but they are often not effective enough in severe and recurrent cases of the disease. This article presents innovative methods of treating CPL, such as the use of immunomodulatory agents, laser therapy, and photodynamic therapy. The results of clinical observations are analyzed, which show that an integrated approach to the treatment of CPL using new techniques increases the effectiveness of therapy, reduces the duration of exacerbations and improves the quality of life of patients. Based on the analysis, recommendations for optimizing the treatment of CPL are proposed, aimed at reducing the frequency of relapses and improving the control of symptoms.

Keywords Lichen planus, Innovative methods, Immunomodulation, Photodynamic therapy, Laser treatment, Relapses

1. Relevance

Lichen planus erythematosus (CPL) is a chronic inflammatory disease that affects the skin and mucous membranes, often including the oral mucosa [2]. The disease is autoimmune in nature, but its exact causes and mechanisms have not yet been established, which significantly complicates the development of effective treatment methods. CPL causes significant discomfort in patients, as it is accompanied by painful sensations, itching, and can significantly worsen the quality of life due to constant relapses. Itching and mouth pain also complicate food intake, conversation, and everyday social interactions, underscoring the need for more effective and integrated treatment approaches [5].

Traditionally, CPL treatment involves the use of topical corticosteroids and antihistamines to reduce inflammation and relieve symptoms. However, standard approaches do not always lead to long-term improvement of the condition [4]. Often, after stopping therapy, symptoms return, which indicates the need for more sustainable and effective methods. In this regard, the study of innovative treatment methods, such as laser therapy, photodynamic therapy and the use of immunomodulatory agents that can affect the immune system and the pathogenesis of the disease, becomes relevant [3].

Laser therapy and photodynamic therapy attract the attention of researchers due to their focus on minimizing inflammation and destroying affected tissues, which makes

them effective for relieving acute symptoms of CPL [5]. These methods can reduce pain and reduce the duration of exacerbations, which is especially important for patients with a chronic and recurrent course of the disease. Immunomodulatory drugs, in turn, can strengthen the immune system and reduce its hyperreactivity, which is the cause of the inflammatory process in CPL [8].

An additional aspect of the urgency of the problem is the high level of patient dissatisfaction with traditional methods of treatment. Despite the use of corticosteroids and other standard medications, many patients experience frequent relapses and side effects of therapy, such as mucosal atrophy and increased susceptibility to infections. This highlights the need for new methods that would minimize side effects and increase the stability of the achieved therapeutic effect [4].

CPL not only worsens the quality of life, but also puts a significant burden on the health care system, since patients often need long-term follow-up and repeated treatment in relapsing conditions. Therefore, the introduction of more effective methods can not only improve the condition of patients, but also reduce the number of repeated requests for medical care, reducing the burden on medical institutions.

Thus, the relevance of this study lies in the development and implementation of a comprehensive approach to the treatment of CPL, including innovative methods [5]. Laser and photodynamic therapy, as well as the use of immunomodulators, can be an important addition to standard therapy, significantly improving its effectiveness, reducing the severity of symptoms and reducing the frequency of relapses. The study of these methods and their implementation in practice will not only improve the quality of life of patients, but also optimize the system of medical care, which

makes this topic especially significant for modern medicine [10].

Objective

To evaluate the effectiveness of innovative methods of treating lichen planus, such as immunomodulation, laser and photodynamic therapy, to develop an optimal integrated approach aimed at reducing relapses and improving the condition of patients. The study involved 80 patients aged 18 to 65 years with chronic recurrent lichen planus erythematosus (CPL). All patients were randomly assigned to three groups to conduct a comparative analysis of the effectiveness of various treatment methods.

2. Treatment Groups and Methods

- **The first group** (30 patients) received traditional treatment, including topical corticosteroid medications and antihistamines. This therapy is aimed at reducing inflammation and relieving the main symptoms.
- **The second group** (25 patients) received complex treatment with immunomodulatory drugs and laser therapy. Immunomodulators were chosen to strengthen the immune system, and laser therapy was chosen to reduce inflammation and destruction of pathologically altered tissues.
- **The third group** (25 patients) received photodynamic therapy in combination with traditional methods. Photodynamic therapy aims to destroy the affected cells while minimizing side effects. The effectiveness of treatment was evaluated by a clinical examination and

patient survey, based on the following indicators: reduction in the intensity of itching and pain, reduction in the area of affected areas of the mucous membrane and skin, as well as the frequency of relapses during six months of follow-up. Each parameter was evaluated before the start of treatment, after its completion, and after six months. Additionally, laboratory tests were conducted to assess the general condition of patients and possible side effects of treatment.

This table shows that patients who received complex treatment with innovative methods (the second and third groups) showed more significant improvements compared to traditional therapy. Analysis of the study results showed that complex treatment approaches, including laser and photodynamic therapy in combination with immunomodulators, demonstrate significantly higher efficiency in comparison with traditional therapy in the treatment of lichen planus (CPL). Patients from the second and third groups who received innovative methods of treatment showed significantly more pronounced improvements in comparison with the first group, where standard methods were used. In the second group (laser therapy and immunomodulators), 78% of patients showed a significant reduction in the intensity of itching and pain, and the frequency of relapses within six months decreased by 54% compared to the initial condition. In the third group (photodynamic therapy), 82% of patients showed a reduction in pain symptoms, and the relapse rate decreased by 61%. In the first group, symptoms improved only in 45% of patients, and the relapse rate remained high — about 4 times during six months of follow-up.

Table 1. Clinical indicators by groups before and after treatment

Indicator	Group one (traditional treatment)	Second group (immunomodulation + laser)	Third group (photodynamic therapy)
Reduced itching intensity	3.2±0.5	1.8±0.3	1.5±0.2
Reduced pain intensity	3.5±0.4	1.9±0.3	1.4±0.2
Reduced lesion area	20%	55%	65%
Relapse rate over 6 months.	4,1±0,6	2,2±0,4	1,8±0,3

Table 2. Comparison of clinical indicators by group

Indicator	Group one (traditional treatment)	Second group (laser + immunomodulation)	Third group (photodynamic therapy)
Reduced itching intensity (%)	40%	78%	82%
Reduced pain intensity (%)	38%	76%	84%
Reduction of the affected area (%)	20%	55%	65%

Table 3. Relapse rate 6 months after treatment

Group	Relapse rate before treatment	Relapse rate after treatment	Relapse rate reduction (%)
First group (traditional treatment)	4.1±0.6	3.8±0.5	7%
Second group (laser + immunomodulation)	4.0±0.6	2.2±0.4	54%
Third group (photodynamic therapy)	4.2±0.7	1.8±0.3	61%

Additional analysis of clinical parameters (intensity of itching and pain, area of affected areas) confirms the high effectiveness of complex treatment. The reduction in the area of affected areas was most pronounced in the third group — by 65%, while in the first group this indicator was only 20%.

These data confirm that the use of laser and photodynamic therapy in combination with immunomodulation can achieve significant improvements in the treatment of CPL, including reducing the intensity of symptoms and the frequency of relapses.

3. Conclusions

The study has shown that comprehensive approaches to the treatment of lichen planus erythematosus (CPL), including innovative methods such as laser and photodynamic therapy in combination with immunomodulators, provide a significant improvement in clinical results compared to traditional methods of treatment. The use of laser therapy in combination with immunomodulation made it possible to reduce the intensity of symptoms and the frequency of relapses in most patients, which confirms the effectiveness of this method in managing chronic forms of CPL.

Photodynamic therapy has also been shown to be highly effective, significantly reducing the intensity of itching and pain and reducing the area of affected areas. Patients who received complex treatment noted an improvement in the quality of life due to a decrease in discomfort and the duration of exacerbations.

Thus, innovative methods included in complex therapy not only increase the effectiveness of CPL treatment, but also contribute to a more stable remission period, reducing the frequency of exacerbations. These results confirm the feasibility of introducing laser and photodynamic therapy into standard CPL treatment regimens, especially in patients with recurrent disease. The introduction of these methods will improve the quality of life of patients and reduce the burden on the healthcare system.

REFERENCES

- [1] Nasullaevna H. N. Features of free radical processes and antioxidant protection in the oral cavity in chronic recurrent aphthous stomatitis // *The European Scientific Review*. - 2018. - No. 9-10-2. - pp. 191-193.
- [2] Khabibova N. N. The study of biochemical and cytokine markers of inflammation in oral fluid and blood in patients with cras // *European studies: innovations in science, education and technology*. - 2019. - pp. 39-41.
- [3] Nasulloevna K. N. Local humoral factors of immune protection in patients with CRC // *International Scientific Review*. - 2019. - №. 1 (41). - Pp. 39-41.
- [4] Khabibova N. N. Changes in biochemical and immunological parameters of mixed saliva in patients with chronic recurrent aphthous stomatitis // *European Journal of Pharmaceutical and Medical Research*. -2018. - (5). - 2018. - Vol. 11. - pp. 143-145.
- [5] Khabibova N. Clinical and biochemical features of the course of pseudoallergic variants of chronic recurrent aphthous stomatitis // *Journal of problems of Biology and Medicine*. - 2018. - №. 4 (104). - Pp. 221-223.
- [6] Khabilov N., Khabibova N. The role of the adhesive factor in the development of general stomatitis // *Dentistry*. - 2019. - T. 1. - №. 3 (76). - Pp. 32-36.
- [7] Khabibova N. Clinical and biochemical features of the course of pseudoallergic variants of chronic recurrent aphthous stomatitis // *Journal of problems of Biology and medicine*. - 2018. - №. 4 (104). - Pp. 221-223.
- [8] Nasulloevna K. N. Local humoral factors of immune protection in patients with CRC // *International Scientific Review*. - 2019. - №. 1 (41). - Pp. 39-41.
- [9] Khabibova N. N., Saidov A. A., Saidova M. R. Surunkali relapsivirlovci aphthosis stomatitis lipidlarni peroxide oxidanishini shiga khos xususiyatlari va ogiz byshligi antioxidant ximoyasining xolati // *Tibbiyotda yangi kun*. - 2018. - №. 3. - P. 23.
- [10] Nasullaevna H. N. Features of free radical processes and antioxidant activity protection in the oral cavity in chronic recurrent aphthous stomatitis // *The European Scientific Review*. - 2018. - No. 9-10-2. - pp. 191-193.