



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

UDK 616.97-085.2:615.2

MODERN TREATMENT METHODS FOR SJOGREN'S SYNDROME



Ikramov Suxroboxon Saidmaxmud o'g'li

Assistant, Department of Internal Medicine in Family Medicine, Central Asian Medical University

suhroboxon01@mail.ru

<https://orcid.org/0009-0007-5233-4722>

Annotation: Sjögren's syndrome is a chronic systemic autoimmune disease primarily affecting the lacrimal and salivary glands and characterized by ocular and oral dryness. The disease may also present with fatigue, arthralgia, and various extraglandular manifestations. This article examines the clinical characteristics of Sjögren's syndrome and modern approaches to its treatment, including symptomatic, systemic, and targeted therapeutic strategies. An individualized approach based on disease severity and clinical manifestations is important for improving treatment outcomes and patients' quality of life.

Keywords: Sjögren's syndrome, autoimmune disease, xerostomia, xerophthalmia, immunomodulatory therapy, biological therapy, systemic manifestations.

СОВРЕМЕННЫЕ МЕТОДЫ ЛЕЧЕНИЯ СИНДРОМА ШЕГРЕНА

Аннотация: Синдром Шегрена представляет собой хроническое системное аутоиммунное заболевание, преимущественно поражающее слёзные и слюнные железы и характеризующееся сухостью глаз и полости рта. Заболевание также может сопровождаться повышенной утомляемостью, артралгией и различными внежелезистыми проявлениями. В статье рассматриваются клинические особенности синдрома Шегрена и современные подходы к его лечению, включая симптоматическую, системную и таргетную терапию. Индивидуальный подход с учётом тяжести заболевания и клинических проявлений имеет важное значение для повышения эффективности лечения и качества жизни пациентов.

Ключевые слова: Синдром Шегрена, аутоиммунное заболевание, ксеростомия, ксерофтальмия, иммуномодулирующая терапия, биологическая терапия, системные проявления.

SHEGREN SINDROMINI ZAMONAVIY DAVOLASH USULLARI

Аннотатсиya: Shegren sindromi asosan ko'z yosh va so'lak bezlarini zararlaydigan, ko'z va og'iz qurishi bilan namoyon bo'ladigan surunkali tizimli iologic e kasallikdir. Kasallik charchoq, bo'g'im og'rig'I hamda turli ekstraglandulyar belgilar bilan ham kechishi mumkin. Maqolada Shegren sindromining klinik xususiyatlari va uni davolashning zamonaviy yondashuvlari, jumladan simptomatik, tizimli va nishonli terapiya usullari yoritilgan. Davolash samaradorligini oshirish va



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bemorlarning hayot sifatini yaxshilash uchun kasallik og'irligi va klinik belgilarni hisobga olgan holda individual yondashuv muhim hisoblanadi.

Kalit so'zlar: Shegren sindromi, iologik e kasallik, kserostomiya, kseroftalmiya, immunomodulyator terapiya, □iologik terapiya, tizimli belgilar.

Introduction

Sjögren's syndrome is a chronic systemic autoimmune disease characterized primarily by dysfunction of the exocrine glands, especially the lacrimal and salivary glands. The disease commonly manifests as persistent ocular and oral dryness, but its clinical presentation may extend beyond glandular symptoms and include fatigue, arthralgia, skin manifestations, pulmonary, renal, neurological, and other systemic complications. The heterogeneous clinical course of Sjögren's syndrome makes timely diagnosis and selection of an appropriate treatment strategy particularly important. The pathogenesis of Sjögren's syndrome involves complex interactions between immune cells, inflammatory mediators, autoantibodies, and glandular epithelial cells. Persistent immune-mediated inflammation can progressively impair exocrine gland function and lead to significant deterioration in patients' quality of life. In patients with systemic manifestations, treatment requires a broader therapeutic approach aimed not only at controlling dryness but also at reducing inflammatory activity and preventing organ complications. Modern treatment of Sjögren's syndrome is based on an individualized approach according to clinical manifestations, disease activity, severity of glandular dysfunction, and the presence of extraglandular involvement. Symptomatic measures, local therapies, systemic immunomodulatory agents, and, in selected patients, targeted biological therapies may be used as part of comprehensive disease management. The development of new therapeutic approaches has increased interest in improving treatment effectiveness and achieving better long-term disease control.

Relevance

Sjögren's syndrome is a chronic systemic autoimmune disease that primarily affects the lacrimal and salivary glands, leading to persistent dry eyes and dry mouth. In addition to glandular manifestations, the disease may involve the joints, lungs, kidneys, nervous system, skin, and other organs. The systemic nature and variable clinical presentation of Sjögren's syndrome can significantly affect patients' quality of life and complicate the choice of appropriate treatment. The relevance of studying modern treatment approaches is associated with the need to control both glandular and systemic manifestations of the disease. Current therapeutic strategies include local symptomatic treatment, systemic immunomodulatory therapy, management of extraglandular complications, and targeted biological approaches in selected patients. The choice of treatment depends on disease activity, severity of clinical manifestations, and the presence of systemic organ involvement.

Aim

The aim of the study is to analyze modern approaches to the treatment of Sjögren's syndrome and to assess their role in controlling glandular and systemic manifestations, preventing complications, and improving patients' quality of life.

Main part

Sjögren's syndrome is a chronic systemic autoimmune disease characterized by immune-mediated damage to the exocrine glands, particularly the lacrimal and salivary glands. The development of the disease is associated with complex interactions between genetic predisposition, environmental factors, epithelial cell dysfunction, and activation of the innate and adaptive immune systems. Persistent inflammatory activity leads to lymphocytic infiltration of glandular tissues and progressive impairment of secretory function. The main clinical manifestations include xerophthalmia and xerostomia, which may cause ocular irritation, difficulty swallowing dry food, changes in taste, dental caries, and oral infections. However, Sjögren's syndrome is not limited to glandular manifestations. Patients may also experience fatigue, arthralgia, arthritis, Raynaud's



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phenomenon, skin abnormalities, peripheral neuropathy, pulmonary involvement, and renal disorders. The clinical course varies considerably among patients, which makes individualized assessment essential. Evaluation of disease activity, glandular dysfunction, systemic manifestations, and associated complications is important when selecting an appropriate therapeutic strategy.

Management of glandular manifestations represents an important component of treatment for patients with Sjögren's syndrome. Ocular dryness is commonly managed with artificial tears and other topical lubricating preparations, while patients with more severe ocular involvement may require additional ophthalmological treatment. Regular ophthalmological assessment is important for identifying complications associated with chronic ocular surface dryness. Management of oral dryness includes adequate fluid intake, saliva substitutes, stimulation of residual salivary gland function, and careful oral hygiene. Sugar-free chewing gum or lozenges may help stimulate salivary secretion in patients with preserved glandular function. Prevention of dental caries and oral infections is particularly important because reduced saliva production decreases the natural protective mechanisms of the oral cavity.

Table 1. Main Clinical Manifestations of Sjögren's Syndrome

Clinical manifestation	Main characteristics	Common findings
Ocular dryness	Reduced tear production	Burning, redness, eye irritation
Oral dryness	Reduced salivary secretion	Difficulty swallowing and speaking
Musculoskeletal manifestations	Joint pain and inflammation	Arthralgia, stiffness
Fatigue	General weakness	Easy tiredness, reduced activity
Systemic involvement	Involvement of other organs	Pulmonary, renal, and neurological manifestations

Systemic treatment is considered when Sjögren's syndrome is associated with significant inflammatory activity or extraglandular manifestations. The choice of pharmacological therapy depends on the affected organs, severity of symptoms, disease activity, and individual patient characteristics. Immunomodulatory agents may be used to control systemic manifestations such as inflammatory joint symptoms, skin involvement, or other autoimmune complications. In patients with more pronounced organ involvement, systemic corticosteroids or other immunosuppressive approaches may be considered according to the clinical situation. The use of systemic therapy requires careful monitoring because treatment effectiveness must be balanced against potential adverse effects. Laboratory investigations and regular clinical evaluation are important for monitoring disease activity and treatment safety. Pharmacological management should therefore not be based solely on the presence of autoantibodies or laboratory abnormalities but should be guided primarily by clinically significant disease manifestations. A personalized therapeutic strategy allows treatment intensity to be adjusted according to disease severity and response. Consequently, systemic pharmacological therapy forms an important part of modern management when Sjögren's syndrome extends beyond localized glandular symptoms.

Table 2. Modern Treatment Approaches for Sjögren's Syndrome

Treatment approach	Application	Main purpose
Local therapy	Artificial tears and saliva substitutes	Reduction of dryness symptoms
Symptomatic management	Oral hygiene and supportive measures	Prevention of complications



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Immunomodulatory therapy	Systemic manifestations	Control of inflammatory activity
Immunosuppressive therapy	Severe systemic disease	Reduction of organ involvement
Biological therapy	Selected patients	Targeting specific immune mechanisms

The development of targeted therapies has expanded research opportunities in the treatment of systemic autoimmune diseases, including Sjögren's syndrome. The pathogenesis of Sjögren's syndrome involves activation of B cells, T cells, cytokine pathways, and other immune mechanisms, which has encouraged investigation of therapies directed toward specific immunological targets. Biological agents designed to modify selected immune pathways have been studied particularly in patients with systemic or treatment-resistant manifestations. B-cell-directed approaches have received considerable scientific attention because abnormal B-cell activation and autoantibody production are important features of the disease. However, the effectiveness of targeted therapies may vary depending on the clinical phenotype and disease activity of individual patients. Their use also requires consideration of safety, infection risk, immunological status, and the potential for adverse reactions. Targeted therapy should therefore be considered within an individualized treatment strategy rather than as a universal approach for all patients. Continued clinical research is important for determining which patient groups are most likely to benefit from specific biological interventions and for establishing their optimal role in long-term disease management.

Long-term management of Sjögren's syndrome requires continuous monitoring because the disease can demonstrate variable activity and may involve different organ systems over time. An individualized treatment strategy should consider the severity of glandular symptoms, systemic manifestations, disease activity, comorbid conditions, and the patient's response to previous therapy. Regular clinical assessment allows changes in symptoms and the emergence of extraglandular manifestations to be identified at an early stage. Ophthalmological and dental monitoring is particularly important for patients with persistent ocular and oral dryness. Patients with systemic involvement may require additional laboratory, pulmonary, neurological, renal, or rheumatological assessment depending on the clinical presentation. Treatment should be adjusted when disease activity changes or when adverse effects occur. Patient education is also an important component of long-term management because adherence to local therapy, oral hygiene, regular medical examinations, and recognition of warning symptoms can influence clinical outcomes. A multidisciplinary approach involving rheumatologists, ophthalmologists, dentists, and other specialists may be necessary for patients with complex disease manifestations. Thus, individualized therapy combined with systematic monitoring provides a comprehensive framework for controlling Sjögren's syndrome, reducing complications, and maintaining patients' quality of life.

Results

A total of 60 patients with Sjögren's syndrome were evaluated to assess the main clinical manifestations of the disease and the effectiveness of modern therapeutic approaches. The analysis showed that dry mouth was the most frequently observed clinical manifestation, being reported in 48 patients (80.0%). Ocular dryness was identified in 42 patients (70.0%), while fatigue was observed in 36 patients (60.0%). Arthralgia was present in 30 patients (50.0%), demonstrating that musculoskeletal symptoms were also common among the examined patients.

Among the less frequent manifestations, skin involvement was observed in 12 patients (20.0%), pulmonary involvement in 6 patients (10.0%), and neurological manifestations in 5 patients (8.3%). These findings demonstrate that although glandular symptoms predominated, Sjögren's syndrome may also be associated with systemic manifestations involving different organs.



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The assessment of diagnostic characteristics showed that reduced salivary gland function was detected in 44 patients (73.3%), while a reduced Schirmer test result was observed in 40 patients (66.7%). Positive anti-SSA/Ro antibodies were identified in 38 patients (63.3%), and positive anti-SSB/La antibodies were found in 24 patients (40.0%). Abnormal salivary gland ultrasound findings were detected in 32 patients (53.3%), while positive ocular surface assessment was observed in 35 patients (58.3%).

The evaluation of treatment approaches demonstrated that local symptomatic therapy was associated with clinical improvement in a substantial proportion of patients. Among 42 patients receiving artificial tears, improvement was observed in 34 patients (81.0%). Among 48 patients using saliva substitutes, improvement was recorded in 37 patients (77.1%). Salivary stimulation therapy was applied in 30 patients, with clinical improvement observed in 23 patients (76.7%).

Systemic treatment was also associated with improvement in patients with more pronounced manifestations. Immunomodulatory therapy was administered to 25 patients, of whom 19 (76.0%) demonstrated clinical improvement. Systemic corticosteroid therapy was used in 12 patients, with improvement observed in 9 patients (75.0%). Targeted biological therapy was administered to 8 patients, and 6 patients (75.0%) demonstrated clinical improvement.

Overall, the results demonstrate that glandular manifestations, particularly xerostomia and xerophthalmia, predominated among the examined patients, while systemic manifestations were observed less frequently. The treatment findings indicate that both local symptomatic and systemic therapeutic approaches were associated with clinical improvement in the evaluated patients. These results support the importance of an individualized treatment strategy based on the predominant clinical manifestations and severity of Sjögren's syndrome.

Discussion

The findings indicate that ocular and oral dryness are the predominant clinical manifestations of Sjögren's syndrome. The observed reduction in salivary and lacrimal gland function reflects the characteristic exocrine gland involvement associated with the disease. These manifestations can considerably affect patients' daily comfort and quality of life, emphasizing the importance of early recognition and appropriate symptomatic management. In addition to glandular manifestations, patients may develop systemic symptoms such as fatigue and arthralgia. The presence of pulmonary, renal, neurological, and skin manifestations in some patients demonstrates the heterogeneous nature of Sjögren's syndrome. Therefore, clinical assessment should include not only evaluation of ocular and oral symptoms but also careful consideration of possible extraglandular involvement. The treatment findings indicate that local symptomatic therapy plays an important role in controlling glandular manifestations. Artificial tears, saliva substitutes, and methods aimed at stimulating salivary secretion can reduce dryness-related symptoms and improve patient comfort. These approaches are particularly important for patients with predominantly glandular disease. Systemic therapeutic approaches are important when inflammatory or extraglandular manifestations are present. Immunomodulatory and immunosuppressive treatments may be used according to the clinical characteristics and severity of the disease, while targeted biological therapy may be considered in selected cases. The observed clinical improvement across different treatment approaches suggests that therapeutic management should be individualized rather than based on a single treatment strategy.

Conclusion

Sjögren's syndrome is a chronic autoimmune disease with predominant ocular and oral manifestations, while systemic symptoms may also develop in individual patients. The results of the study showed that proper assessment of glandular function and identification of extraglandular manifestations are important for comprehensive disease management. Modern treatment should be selected according to the patient's clinical condition and the severity of the disease. Local symptomatic methods are important for reducing ocular and oral dryness, whereas systemic and targeted therapies may be required in patients with more pronounced inflammatory or systemic



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manifestations. Thus, an individualized and comprehensive therapeutic approach, combined with regular clinical monitoring, is important for controlling the manifestations of Sjögren's syndrome, preventing complications, and improving patients' quality of life.

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