

**COMPREHENSIVE APPROACH TO THE COURSE AND TREATMENT OF
CONJUNCTIVITIS AGAINST THE BACKGROUND OF METABOLIC
SYNDROME**

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Annotation. Metabolic syndrome is a combination of pathological conditions, including insulin resistance, arterial hypertension, hyperlipidemia, and abdominal obesity, which significantly affect various body systems. One of the important aspects of metabolic syndrome is its impact on eye health, especially on the development of inflammatory diseases such as conjunctivitis. Conjunctivitis against the background of metabolic syndrome can have various clinical manifestations, including redness, itching, tearing, and eye swelling. The pathogenesis of these diseases includes both the direct effect of metabolic disorders and the secondary weakening of immune defense. Endocrine and metabolic disorders contribute to changes in the structure of tear fluid, which increases susceptibility to inflammation and infections.

A comprehensive approach to treating conjunctivitis against the background of metabolic syndrome includes both systemic and local therapeutic methods. The most important areas of treatment are the correction of metabolic disorders using drugs aimed at reducing blood sugar levels, improving lipid metabolism, and normalizing blood pressure. Local treatment of conjunctivitis includes the appointment of anti-inflammatory and antiseptic medications, as well as the use of medications to improve the condition of the tear film. Thus, effective treatment of conjunctivitis in patients with metabolic syndrome requires an individual approach, which includes both the correction of the underlying disease and the use of specific therapy to reduce inflammation and prevent complications.

Keywords: Conjunctivitis, metabolic syndrome, complex treatment, influence of metabolic syndrome, diabetic retinopathy, insulin resistance

Аннотация. Метаболический синдром представляет собой совокупность патологических состояний, включающих инсулинорезистентность, артериальную гипертензию, гиперлипидемию и абдоминальное ожирение, которые оказывают значительное влияние на различные системы организма. Одним из важных аспектов метаболического синдрома является его влияние на здоровье глаз, особенно на развитие воспалительных заболеваний, таких как конъюнктивит. Конъюнктивиты на фоне метаболического синдрома могут иметь различные клинические проявления, включая покраснение, зуд, слезотечение и отечность век. Патогенез этих заболеваний включает как прямое воздействие метаболических нарушений, так и вторичное ослабление иммунной защиты. Эндокринные и обменные нарушения способствуют изменению структуры слезной жидкости, что увеличивает предрасположенность к воспалению и инфекциям.

Комплексный подход к лечению конъюнктивитов на фоне метаболического синдрома включает как системные, так и местные терапевтические методы. Важнейшими направлениями лечения являются коррекция метаболических нарушений с

использованием препаратов, направленных на снижение уровня сахара в крови, улучшение липидного обмена и нормализацию артериального давления. Местное лечение конъюнктивита включает назначение противовоспалительных и антисептических препаратов, а также использование препаратов для улучшения состояния слезной пленки. Таким образом, эффективное лечение конъюнктивита у пациентов с метаболическим синдромом требует индивидуального подхода, который включает как коррекцию основного заболевания, так и использование специфической терапии для уменьшения воспаления и предотвращения осложнений.

Ключевые слова: Конъюнктивит, метаболический синдром, комплексное лечение, влияние метаболического синдрома, диабетическая ретинопатия, инсулинорезистентность.

Аннотация. Метаболик синдром организмнинг турли тизимларига сезиларли таъсир кўрсатадиган инсулин қаршилиги, артериал гипертензия, гиперлипидемия ва абдоминал семизликни ўз ичига олган патологик ҳолатлар тўпламидир. Метаболик синдромнинг муҳим жиҳатларидан бири унинг кўз саломатлигига, айниқса конъюнктивит каби яллиғланиш касалликларининг ривожланишига таъсиридир. Метаболик синдром фондаги конъюнктивитлар турли хил клиник кўринишларга эга бўлиши мумкин, жумладан, қизариш, қичишиш, кўз ёшланиши ва қовоқларнинг шишиши. Ушбу касалликларнинг патогенези метаболик бузилишларнинг бевосита таъсирини ҳам, иммунитет ҳимоясининг иккиламчи заифлашувини ҳам ўз ичига олади. Эндокрин ва алмашинув бузилишлари суяқлик таркибининг ўзгаришига олиб келади.

Метаболик синдром фондаги конъюнктивитларни даволашга комплекс ёндашув ҳам тизимли, ҳам маҳаллий терапевтик усулларни ўз ичига олади. Даволашнинг энг муҳим йўналишлари қондаги қанд миқдорини камайтириш, липид алмашинувини яхшилаш ва қон босимини нормаллаштиришга қаратилган дори-дармонларни қўллаш орқали метаболик бузилишларни тузатишдир. Конъюнктивитни маҳаллий даволаш яллиғланишга қарши ва антисептик дориларни тайинлаш, кўз ёши пардасининг ҳолатини яхшилаш учун дорилардан фойдаланишни ўз ичига олади. Шундай қилиб, метаболик синдром билан оғриган беморларда конъюнктивитни самарали даволаш асосий касалликни тузатишни ҳам, яллиғланишни камайтириш ва асоратларнинг олдини олиш учун махсус терапиядан фойдаланишни ҳам ўз ичига олган индивидуал ёндашувни талаб қилади.

Калит сўзлар: Конъюнктивит, метаболик синдром, комплекс даволаш, метаболик синдром таъсири, диабетик ретинопатия, инсулинрезистентлик.

Metabolic syndrome (MS) is a group of metabolic disorders that includes insulin resistance, hypertension, dyslipidemia, obesity, and high blood sugar. These disorders are closely related to the development of various diseases, including eye diseases such as conjunctivitis. In this regard, it is important to consider a comprehensive approach to the diagnosis and treatment of conjunctivitis against the background of metabolic syndrome, taking into account the impact of general metabolic disorders on the condition of the visual organs. The topic of a comprehensive approach to the course and treatment of conjunctivitis against the

background of metabolic syndrome is very relevant, given modern trends in the field of medicine and health care.

Metabolic syndrome (MS) includes a number of metabolic disorders such as obesity, hypertension, dyslipidemia, insulin resistance, which can affect various organs and systems, including the eyes.

Increase in metabolic syndrome. In recent decades, there has been an increase in the number of patients with metabolic syndrome, which is associated with a deterioration in lifestyle, poor nutrition, physical inactivity and stress. This directly affects the occurrence of concomitant diseases, including eye diseases. The impact of MS on the immune system. Metabolic syndrome is accompanied by inflammatory processes in the body, which can lead to a change in the immune response, including an increased risk of developing inflammation in the eyes, such as conjunctivitis. Risks of worsening conjunctivitis. People with metabolic syndrome often have problems with microcirculation, which can make it difficult to treat inflammatory diseases, including conjunctivitis. In addition, diabetes and other metabolic disorders can increase the likelihood of infection and slow healing. The need for a comprehensive approach to treatment. Given the relationship between metabolic syndrome and eye diseases, treatment of conjunctivitis should be comprehensive. This includes not only the use of local drugs (antibacterial, antiviral, anti-inflammatory), but also the correction of metabolic disorders with the help of medications, diet, exercise and other methods aimed at improving the general condition of the patient.

Early detection and prevention. Prevention and timely detection of both metabolic syndrome and eye diseases are important aspects in preventing the development of complications. The use of screening methods to detect both MS and eye diseases allows for the effective prevention of disease progression. Metabolic syndrome has a significant impact on eye health, contributing to the development of various diseases. One such disease is conjunctivitis, an inflammation of the conjunctiva, the membrane that covers the front of the eyeball and the inside of the eyelids. Signs of conjunctivitis include redness, itching, swelling, and discharge from the eyes. However, in patients with metabolic syndrome, the disease can be more severe and prolonged, which is associated with a number of factors: Insulin resistance can contribute to the development of chronic inflammatory processes, which can complicate the recovery process during infections. Systemic inflammation, characteristic of metabolic syndrome, increases the likelihood of developing conjunctivitis, especially in conditions of a weakened immune response. Dry eyes and impaired lacrimation are also common in patients with metabolic syndrome, which may be an additional risk factor for the development of conjunctivitis.

Diagnosis of conjunctivitis in patients with metabolic syndrome requires a comprehensive approach. In addition to traditional diagnostic methods, such as examination and microbiological examination of eye discharge, the following aspects must be taken into account: Assessing the patient's general health, identifying signs of metabolic syndrome (high blood pressure, excess weight, lipid metabolism disorders, increased blood glucose levels). Assessing the presence of concomitant eye diseases, such as dry eye syndrome, which can worsen the course of conjunctivitis. Inflammation tests, including C-reactive protein (CRP) levels and other inflammatory markers, to assess the degree of systemic inflammation. Treatment of conjunctivitis in patients with metabolic syndrome requires not

only an effect on conjunctival inflammation, but also correction of the underlying metabolic disease. Treatment should be comprehensive and include the following stages: Anti-inflammatory drugs for the treatment of conjunctivitis can be used both locally (eye drops, ointments) and systemically anti-inflammatory drugs. The use of steroidal and non-steroidal anti-inflammatory drugs may be justified in severe forms of inflammation. Antibiotics and antiseptics in case of bacterial infection, broad-spectrum antibiotics may be prescribed. It is important to consider the possible tendency of patients with metabolic syndrome to microflora disturbance, which may affect the choice of drugs. Moisturizing drops for dry eye syndrome it is important to use moisturizing preparations to maintain the normal condition of the mucous membrane of the eyes. Eye hygiene following hygiene recommendations and regularly cleaning the eyelids from dirt helps reduce inflammation and improve healing processes. Treatment of metabolic syndrome Correction of metabolic disorders is of key importance in the treatment of conjunctivitis against the background of metabolic syndrome. It is important to work in the following areas:

Control of blood sugar levels. To improve your health and reduce inflammation, you need to control your blood glucose levels through diet, exercise, and medication (such as metformin or insulin).

Correction of lipid metabolism. The use of statins to reduce cholesterol levels in the blood can reduce inflammation in the body and in the eyes.

Normalization of blood pressure. The use of antihypertensive drugs to control blood pressure helps reduce the risk of vascular diseases of the eyes.

Diet and physical activity. Eating a balanced diet that includes antioxidants and anti-inflammatory foods, as well as regular physical activity, can help improve overall metabolism. A patient's lifestyle plays an important role in the treatment of both metabolic syndrome and conjunctivitis.

Lifestyle recommendations include:

- Stopping smoking and limiting alcohol consumption, as these factors can worsen both eye inflammation and metabolic disorders.
- Reducing stress through relaxation techniques or psychological support.

A comprehensive approach to the treatment of conjunctivitis against the background of metabolic syndrome includes not only local therapy, but also correction of the underlying disease. It is important to consider the impact of metabolic disorders on the course of eye diseases and to apply an integrated approach, including drug treatment, lifestyle changes and continuous monitoring of the patient's health. Thus, attention to metabolic disorders in the context of the treatment of eye diseases helps to increase the effectiveness of therapy and improve the quality of life of patients.

Literatures:

1. K.Lekhanont et al. Effect of topical olopatadine and epinastine in the botulinum toxin B-induced mouse model of dry eye. // J Ocul Pharmacol Ther. 2007 Feb; 23(1): 83-8. D
2. Pan Q. et al. Autologous serum eye drops for dry eye //Cochrane Database of Systematic Reviews. – 2017. – №. 2.
3. Bielory L., Lien K. W., Bigelsen S. Efficacy and tolerability of newer antihistamines in the treatment of allergic conjunctivitis //Drugs. – 2005. – Т. 65. – №. 2. – С. 215-228.
4. Azari A. A., Barney N. P. Conjunctivitis: a systematic review of diagnosis and treatment //Jama. – 2013. – Т. 310. – №. 16. – С. 1721-1730.
5. Owen CG, Shah A, Henshaw K, et al. Topical treatments for seasonal allergic conjunctivitis: systematic review and meta-analysis of efficacy and effectiveness. //Br J Gen Pract. – 2004. – v.54(503). – P.451-456.
6. Hwang D. G. et al. A phase III, placebo controlled clinical trial of 0.5% levofloxacin ophthalmic solution for the treatment of bacterial conjunctivitis //British journal of ophthalmology. – 2003. – Т. 87. – №. 8. – С. 1004-1009.
7. Boboeva Rano Rakhimovna. Improvement of Methods of Treatment of Retinal Angiopathies of Various Etiologies: //Journal of Natural and Medical Education Year 2024;3(2).
8. Бобоева Раъно Рахимовна. Совершенствование методов лечения ангиопатий сетчатки различной этиологии. //Journal of science in medicine and life. 2024; с. 61-65.
9. Бобоева Раъно Рахимовна. Комплексный подход к течению и лечению конъюнктивитов на фоне метаболического синдрома. // world scientific research journal volume-38_issue-1_april-2025 ,84-90ст