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The Effectiveness of the Domestic Drug Kromoviz in the Treatment of Allergic Conjunctivitis

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Abstract The aim to study the effectiveness and tolerability of the domestic drug kromoviz in the treatment of allergic conjunctivitis. We studied the condition of the organ of vision in 60 patients (120 eyes) with allergic conjunctivitis, which held by perception of complaints and anamnestic data. Depending on the therapy, the patients were divided into two homogeneous groups according to clinical manifestations. The results of the research showed that the use of the drug of sodium cromoglycate group against the background of basic treatment is reflected in a reduction of patient's subjective complaints and a significant clinical effect in 95.9% of cases. The revealed economic efficiency of the drug action indicates the achievement of the maximum level of therapeutic results at a reasonable price for the patient and the medical institution. Cases of side effects and intolerance to the drug of sodium cromoglycate group in our studies have not been identified.

Keywords Allergic conjunctivitis, Mast cell membrane stabilizers, Sodium cromoglicate, Allergic edema, Follicles

1. Introduction

Allergic diseases constitute the most important medical and social problem of our time, because over the past two decades, the frequency of allergic diseases has increased significantly, especially in economically developed countries and in countries with unfavorable environmental conditions. According to the forecasts of some scientists, the XXI century. will be the century of allergic diseases [1].

Over the past 30 years there has been an exponential increase in the prevalence of many allergic diseases, including allergic conjunctivitis (AK). On average, the prevalence of AK in the world is from 15% to 25%, and in children it approaches 40%. According to epidemiological studies conducted in various regions of the world, the prevalence of allergic diseases ranges from 3.3% to 35% and averages 16.5% [3,11].

Impact on allergic inflammation involves not only the use of pharmacotherapy, but also the implementation of a number of preventive measures. In the case of mild exacerbations that do not require hospitalization in a hospital, treatment is carried out on an outpatient basis under the dynamic supervision of an allergist-immunologist with correction of therapy based on the results of an assessment of the patient's condition in dynamics [9,13].

Non-pharmacological methods of treating allergic diseases include measures aimed at eliminating a causative allergen and provoking factors. Elimination of an allergen is a fundamental measure that is used both at the stage of relief of an exacerbation of the disease, and in the subsequent period, and should be carried out with any form of allergy. In each case, a complex of elimination measures is considered the appointment of a hypoallergenic diet, measures aimed at eliminating or minimizing contact with medicinal, inhalation, insect, food and other allergens. The timeliness and effectiveness of treatment largely depends on the timeliness of elimination measures [5,12].

Traditionally, drugs are selected based on controlled clinical trials. The main goals of therapy are to determine the cause of allergization; prevention of exacerbations of the disease; maintaining a normal level of patient activity, preventing the development of severe forms of the disease, treating concomitant diseases and improving the quality of life [2,4,6,7]. Due to the need for long term use, along with efficacy and safety, the availability of antiallergic drugs for patients is of great importance, because one of the trends in modern pharmacotherapy of allergopathology is the increasing use of domestic medicines, which is mainly due to their lower cost. which determined the conduct of this study.

Thus, the treatment of allergic eye diseases is a complex of measures aimed at the treatment and prevention of allergic inflammation and related to drug and non-drug methods of exposure. The use of certain drugs should be balanced and justified. Only an integrated approach to the management of patients with allergic diseases can provide the best effect of the therapy [9,12].

In connection with the updating and development of pharmacotherapeutic approaches to the treatment of allergic eye diseases, and the lack of domestic local anti-allergic

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drugs on the pharmaceutical market, there is a need to develop and select drugs with the optimal ratio "efficacy / safety / cost" [14].

The domestic drug Kromoviz (sodium cromoglycate) we are studying is a mast cell stabilizer that contains cromoglycic acid disodium salt. The therapeutic effect is the membrane-stabilizing effect of cromoglic acid, which prevents the mast cells from degranulating and releasing histamine, bradykinin, leukotrienes (including the slow-reacting anaphylaxis substance), prostaglandins, and other biologically active substances from them. Clinical trials of the drug were carried out on the instructions of the Pharmaceutical Committee and the Committee on Bioethics of the Republic of Uzbekistan. According to the results of our research, the drug is approved for use in the republic as an antiallergic agent in the treatment of allergic conjunctivitis (No. 112 / 102OS / 108Uz2018 / 1145) [8].

2. Purpose

Study of the effectiveness and tolerability of the domestic drug kromoviz in the treatment of allergic conjunctivitis.

3. Material and Research Methods

We studied the state of the organ of vision of 60 patients (120 eyes) with allergic conjunctivitis, conducted a thorough collection of complaints, anamnestic data. Distribution of patients by gender: 28 men and 33 women aged 18 to 60 years.

According to the classification scheme developed by Yu.F. Maychuk (1999), depending on the clinical form of an allergic lesion, patients were divided into the following groups: conjunctiva hyperemia was observed in 16, eyelid acute allergic edema was observed in 10, follicular conjunctivitis in 10, papillary conjunctivitis in 3, blepharoconjunctivitis in 21 and dermatitis of the skin of the eyelids in 3 patients.

Depending on the therapy, patients were divided into two groups that were homogeneous in clinical manifestations. Moreover, in the main group (30 patients) Kromoviz was prescribed (eye drops 4%, manufactured by ASEPTICA LLC, Uzbekistan), instillation 2 drops 4 times a day for 4 weeks. In the control group (30 patients), Icrol (4% eye drops, World Medicine Ophthalmics, UK) was instilled according to the same scheme. Undergoing therapy with allergic conjunctivitis, basic therapy was also carried out, including general antihistamines.

Ophthalmic research methods are as follows: visometry, examination under focal illumination, biomicroscopy. Along with ophthalmological research methods, allergological tests (scarification tests) for specific allergens during the remission of the disease were carried out to clarify the etiology of the process. Statistical processing of the results was carried out using standard methods of variation statistics using Student's t-test to assess the significance of differences using the Microsoft Excel program 2013 (Microsoft Corp., Redmond, WA, USA) on a Intel computer Pentium Core 2 Duo model.

4. The Results of the Study

According to the indicators of allergological tests carried out during the period of remission in the Republican Allergy Center, it was revealed that the main cause of allergic eye damage are weeds (33%), dust - 26%, epidermal allergens - 19% and polyallergy occurred in 22% of cases.

Patients with allergic edema, dermatitis of the eyelid skin and blepharoconjunctivitis complained of itching, redness, and a feeling of a foreign body in the eyes (68 eyes). Patients with follicular (8.6%) and papillary (11.8%) forms of the disease mainly complained of photophobia, lacrimation, pruritus, foreign body sensation, filamentous mucous discharge, after removal of which a decrease in symptoms was noted.

Table 1. An objective assessment of patients of the main and control groups with allergic edema and conjunctival hyperemia

Symptom	Control group (n=30)		Main group (n=30)	
	2 week	4 week	2 week	4 week
Allergic edema of the eyelids	3 (10%)	-	6(20%)	-
Conjunctival hyperemia	19 (63,3%)	3(10%)	20(66,6%)	7(25%)

An objective assessment in the main group showed that after two weeks of treatment, in the group of patients with allergic edema of the conjunctiva of the eyelids, the clinical manifestations decreased and persisted only in 20% of cases that were stopped by the end of treatment (Table 1).

Allergic edema of the eyelids, observed in 5 patients of the control group, remained in 10% of cases by the end of the second week, by the end of treatment, the signs of allergic inflammation were stopped.

Conjunctival hyperemia in the main group of patients by the end of the second week of treatment was diagnosed in 66.6% of cases, by the end of treatment persisted in 25% of cases.

Table 2. Objective assessment of patients of the main and control groups with follicular conjunctivitis

Symptom	Control group (n=30)		Main group (n=30)	
	2 week	4 week	2 week	4 week
Single follicles	19 (63,3%)	3(10%)	9(30%)	-
Multiple follicles	6(20%)	1(3%)	12(40%)	3(10%)

In patients of the control group, hyperemia of the conjunctiva of the eyelids by the end of the second week was preserved in 63.3% of cases, by the end of treatment it was noted in only 10% of cases (Table 2).

In the main group of patients with follicular conjunctivitis

by the second week of treatment, single follicles were observed in 30% of cases, and at the end of the course of treatment resorbed. Multiple follicles, by the end of the second week of treatment persisted in 40% of cases, by the end of 4 weeks - in 10% of cases.

In the control group of patients, single follicles at the end of the 2nd week of treatment were noted in 20% of cases; after 4-week therapy, complete resorption of the follicles was observed. By the 2nd week of treatment, multiple follicles were observed in 40% of cases; by the end of treatment, follicles were observed in 1 patient.

By the end of treatment, the observed patients showed significant positive dynamics and relief of symptoms of allergic inflammation. The treatment efficiency was 95.9% and 97.6%, respectively, in the main and control groups.

During treatment, it was revealed that the domestic drug Kromoviz does not have a toxic effect. Side effects with its long-term use were not found. The tolerability of the treatment in both groups was rated high and amounted to 100%.

When analyzing the degree of subjective complaints, patients of both groups showed an approximately comparable therapeutic effect. Prior to the study, the main complaint of patients in both groups was a feeling of sand in the eyes in 77.7 and 78.4%, respectively, in the main and control groups, pronounced conjunctival hyperemia in 36.7% of cases in the main and 56.7% of cases in the control group, lacrimation was observed in 36.7% and 40% of patients, and itching in the eyes was observed in 56.7% and 40% of patients, respectively.

Analysis of the cost and effectiveness of drug treatment was calculated according to the formula Stewart W.C., Stewart J.A. and Mychaskiw M.A.: sum /% reduction in disease symptoms from baseline during treatment (14 days) [14].

1 g - domestic drug Kromoviz17.000 sum = 17.000 / 90% = 188.8

2 gr - Icrol28.729 sum = 28.729 / 93.3% = 307.9

Thus, the studied domestic drug Kromovizne is inferior in effectiveness to the drug Aikrol IV 1.6 times cheaper than the latter.

5. Conclusions

1. The use of the domestic drug Cromoviza against the background of the basic treatment of patients with allergic conjunctivitis is expressed in the relief of subjective complaints of patients and a significant clinical effect in 95.9% of cases.

2. Thus identified, the economic efficiency of the domestic drug Kromovizt testifies to the achievement of the maximum level of therapeutic result at an affordable price for the patient and the medical institution.

3. Cases of side effects and intolerance to the drug of the domestic drug Kromoviz in our studies have not been identified.

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