Original Article

Efficacy of Sodium Cromoglicate Eye Drops Combined with Yupingfeng Granules in the Treatment of Allergic Conjunctivitis

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Abstract

Purpose: To observe the clinical efficacy of sodium cromoglicate eye drops combined with Yupingfeng granules in the treatment of allergic conjunctivitis.

Methods: A total of 118 patients with allergic conjunctivitis were randomly divided into a combined sodium cromoglicate and Yupingfeng Granule (treatment) group (n=74) and a sodium cromoglicate (control) group (n=44). Clinical efficacy of the two treatments was evaluated by observing the changes in patients' symptoms and physical signs before and after their respective treatments.

Results: Following treatment, the symptoms and physical signs related to allergic conjunctivitis were significantly alleviated in all 118 cases. The total efficacy of the combined sodium cromoglicate and Yupingfeng granule treatment was 91.9%, which was significantly higher than the value of 75.0% obtained with sodium cromoglicate alone (P<0.05).

Conclusion: Combined therapy of sodium cromoglicate eye drops and Yupingfeng granules had a high efficacy and no significant adverse reactions. Therefore, this treatment deserves to be considered for wide application in clinical settings. (***Eye Science 2013; 28:201-203***)

Keywords: allergic conjunctivitis; sodium cromoglicate eye drops; Yupingfeng granule

Allergic conjunctivitis, the most common allergic ocular disease, is a type I allergic reaction mainly mediated by IgE. The incidence of allergic conjunctivitis has been steadily rising due to the use of eye cosmetics, wearing contact lenses, and exposure to air pollution. Major clinical manifestations include eye itch, conjunctival hyperemia, edema and papillar swelling, and follicular proliferation. Allergic conjunctivitis has a marked seasonal incidence and repeated episodes, which severely affect the patient's quality of life. In this study, we observed favorable clinical efficacy by the application of sodium cromoglicate eye drops, singly or in combination with Yupingfeng granules, for the treatment of allergic conjunctivitis in patients admitted from June 2011 to June 2013.

Materials and methods

General information

A total of 118 patients with allergic conjunctivitis admitted to our hospital between June 2011 and June 2013 were enrolled in this clinical trial. These patients included 50 males and 68 females, aged between 14 and 58 years, (average: 45.7±9.7 years).

Inclusion and exclusion criteria

Inclusion criteria: 1. Patients diagnosed with allergic conjunctivitis who showed perennial allergic symptoms with repeated episodes. 2. Patients who had discontinued the use of antihistamine and glucocorticoid drugs at least 1 week before the beginning of this study.

Exclusion criteria: 1. Patients wearing contact lenses; 2. Patients with accompanying keratoconjunctivitis or other eye diseases; 3. Patients who were allergic to a variety of drugs; 4. Patients with severe heart, brain, liver, or renal diseases.

Treatment methods

Methods

A total of 118 patients with allergic conjunctivitis were randomly divided into a combined sodium cromoglicate and Yupingfeng granule group (n=74) and

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a sodium cromoglicate group (n=44). Clinical efficacy of the two treatments was evaluated by observing the changes in patients' symptoms and physical signs before and after their respective treatments.

Control group

The affected eyes were treated with 2% sodium cromoglicate eye drops alone (Shenyang Sinqi Pharmaceutical Co., Ltd., China), 1–2 drops per time, at an interval of 3–4 h.

Treatment group

The patients' affected eyes were treated with 2% sodium cromoglicate eye drops 1–2 drops per time, at an interval of 3–4 h, combined with oral intake of Yupingfeng granules (Guangdong Medi-world Pharmaceutical Co. Ltd.) before a meal, three times daily, for seven consecutive days.

Observational index

The alleviation of symptoms and physical signs related to allergic conjunctivitis, such as eye itch, sense of foreign bodies, conjunctival hyperemia, palpebral conjunctival papillae and follicles, was observed.

Evaluation criteria of clinical efficacy

The evaluation criteria referred to "Clinical features of allergic conjunctivitis"[1] and were as follows: (total score before treatment-total score after treatment)/total score before treatment×100%. Therapeutically ineffective: improvement rate < 30%; effective: improvement rate ranging from 30% to 75%; significantly effective: improvement rate > 75%.

Statistical analysis

SPSS 17.0 statistical software was utilized for data analysis. Enumeration data were assessed by a chi-square test. P <0.05 was considered as statistically significant.

Results

Comparison of clinical efficacy

At 7 d after treatment, all 118 cases in both the control and treatment groups showed significant improvement in their physical signs and symptoms of allergic conjunctivitis, such as eye itch, sense of foreign bodies, conjunctival hyperemia, and palpebral conjunctival papillae and follicles. The overall efficacy rate was 91.9% in the treatment group and 75.0% in the control group and this difference was statistically significant (P<0.05), as shown in Table 1.

Table 1 Comparison of clinical efficacy between two groups at 1 week after treatment

Group(n)	Significantly efficacious	Efficacious	Inefficacious	Overall efficacy rate (%)
Treatment group (74)	30	38	6	91.9▲
Control group(44)	13	20	11	75.0

Note: compared with control group, ▲P<0.05

Adverse reactions

No severe adverse reactions were seen in the patients from either group throughout the treatment period.

Discussion

Allergic conjunctivitis is regarded as an allergic reaction mainly mediated by IgE. When antigens and antibodies are encountered after the first exposure, antigens are able to bind to and cross link with sensitized mast cells and eosinophil surface specificity antigen (IgE), which leads to the activation of mast cells, degranulation, and release inflammatory mediators such as histamine and plasma kinin. This causes a series of tissue and functional changes including abnormal conjunctival vascular ectasia, increased vascular penetrability, and inflammatory cell infiltration.

At present, topical application of medication to affected eyes serves as the main treatment for allergic conjunctivitis. Common drugs are H1 receptor antagonists, mast cell stabilizers, angiotonics, and temporary use of hormonal eye drops for patients with serious allergic conjunctivitis. Sodium cromoglicate eye drops act as a mast cell membrane stabilizer by inhibiting the inflow of calcium ion. The anti-allergic effects occur due to prevention of the release of histamine and other inflammatory mediators[2].

Yupingfeng granules are made from Astragalus membranaceus, Rhizoma atractylodis, and Radix saposhnikoviae. Previous studies revealed that As-

tragalus membranaceus and Rhizoma atractylodis can suppress the production of IgE and inhibit the release of active substances by mast cells, thereby playing a role in anti-allergic reactions[3]. Radix saposhnikoviae also has anti-allergy and anti-inflammation effects. Traditional Chinese medicine theories postulate that allergic conjunctivitis mainly arises from lung and spleen deficiency that creates a pathogenic wind that moves upward and invades the eyes[4]. Astragalus membranaceus and Rhizoma atractylodis, as herbal medicines, can fortify the spleen and regulate qi, secure the exterior and check sweating, and dissipate this pathogenic wind. The combination of Astragalus membranaceus and Radix saposhnikoviae can secure the exterior and dissipate pathogens. The addition of Radix saposhnikoviae to Astragalus membranaceus is able to dissipate the pathogens and reinforce a healthy qi to treat the primary aspects of a disease.

Sodium cromoglicate eye drops combined with Yupingfeng granules showed high efficacy in treating allergic conjunctivitis and double the anti-allergic effects. This combined treatment had significantly higher clinical and overall efficacy compared with the use of sodium cromoglicate eye drops alone, but induced no significant adverse reactions. Therefore, this combined treatment deserves consideration for widespread application in clinical settings.

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