EVALUATING THE EFFICACY OF DIFFERENT MODALITIES OF TREATMENT FOR PERSISTENT MODERATE-SEVERE ALLERGIC RHINITIS: A PROSPECTIVE STUDY

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ABSTRACT

Allergic rhinitis is the commonest allergy encountered in clinical practice. There are various treatment modalities available for this disease control, but till now there is no definitive treatment which will cure allergic rhinitis completely.

OBJECTIVE

The aim of our study is to prospectively evaluate the efficacy of different modalities of treating persistent moderate-severe allergic rhinitis.

MATERIALS AND METHODS

A total of 100 patients both male and female aged 10 years and above, clinically suffering with moderate-severe, persistent allergic rhinitis since 5 years are included in the study. A prospective study was conducted on four groups of 25 patients each. Treatment was given in a span of 2 years and followed up for 1 year.

RESULTS

The results were 80% good, 15% satisfactory and 5% poor in persons treated with specific immunotherapy and avoidance of specific allergen. All the other treatments showed only 50% good results. So we conclude that specific immunotherapy and avoidance of specific allergen is effective for treatment of moderate-severe persistent allergic rhinitis.

CONCLUSION

Untreated allergic rhinitis represents a major cause of morbidity. In our prospective study we conclude that identification of causative allergens, avoidance and specific immunotherapy is an effective treatment for adults and children with persistent moderate-severe Allergic Rhinitis (AR) that does not respond to conventional pharmacotherapy.

KEYWORDS

Allergic Rhinitis, Different Treatments, Immunotherapy.

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INTRODUCTION

Allergic rhinitis is the commonest allergy encountered in clinical practice and constitutes more than 50% of allergies seen in India. In fact 1 in 6 people suffer from allergic rhinitis, which makes it commonest chronic disease of man today and even now its incidence is steadily increasing. The suffering caused to the patient by this disease even though not life threatening is severe and has a substantial effect on the quality of health of individual. Since the allergens are innumerable in universe, it is highly difficult to find out the agent and to promise complete relief to the patient. The increasing food adulteration in modern life, environmental pollution with urbanization and industrialisation aggravates the symptom complex of nasal allergy.

The current classification of AR is based on duration and severity of symptoms.¹ Intermittent AR (IAR) is defined by symptoms occurring for <4 days/week for <4 consecutive weeks and persistent AR (PER), defined by symptoms occurring for >4 days/week for >4 consecutive weeks. Moreover, severities scale of mild to moderate-severe symptoms based on the AR impact on activities and quality of life. Mild allergic rhinitis includes all of the following - normal sleep, no impairment of daily activities, sport, leisure, no impairment of work and school and no troublesome symptoms. Moderate-severe allergic rhinitis includes one or more items - abnormal sleep, impairment of daily activities, sport, leisure, impaired work and school and troublesome symptoms.

This classification was validated in 2003 and is currently widely used worldwide.² We included patients suffering with moderate-severe persistent allergic rhinitis in our study. There are various treatment modalities available for this disease control, but till now there is no definitive treatment which will cure allergic rhinitis completely. In view of large number of patients with allergic rhinitis attending ENT outpatient department, a prospective study was done to come to a conclusion of effective treatment for moderate-severe persistent allergic rhinitis.

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MATERIALS AND METHODS

This is a prospective study conducted on 100 patients, both male and female aged 10 years and above suffering with symptoms of moderate-severe persistent allergic rhinitis since 3 years. Patients are divided into four groups of twenty five each. Treatment was given in a span of 2 years and followed up for 1 year. Patients suffering with severe bronchial asthma, patients on beta blockers and pregnant women are excluded from the study. All the patients were examined; thorough history was taken and subjected to routine blood investigations along with absolute eosinophil count, diagnostic nasal endoscopy and intradermal tests done.

Out of 100 patients 25 patients were treated with antihistamines and nasal decongestants, 25 patients treated with antihistamines, nasal decongestants and corticosteroid spray, 25 patients treated with antihistamines, nasal decongestants and mast cell stabilizers and other 25 patients treated with specific immunotherapy and avoidance of specific allergen. Nasal decongestants are given intermittently for 5 days in above first three groups for immediate symptomatic relief. At the end of the treatment patients showing relief in itching, sneezing and nasal obstruction is considered good response, whereas patients showing relief in only sneezing and itching but no relief of nasal obstruction is considered satisfactory and patients with no relief of all three symptoms considered as poor response. Then the percentage of subjective improvement in allergic symptoms is used to assess treatment outcome at the end of 3 years and the results are tabulated.

RESULTS

In our study, the minimum age is 10 years and maximum is 60 years. The highest incidence was found to be in the age of 21–30 years (40%) followed by 41–50 years (25%); 60% are males and 40% are females. The male-to-female ratio in our study is 1.5:1.

Sex	Number of Patients	Percentage (%)
Male	60	60%
Female	40	40%
Total	100	100

Table 1: Distribution of patients according to sex

Age of the Patient	Number of Patients	Percentage (%)
10 - 20	15	15%
21 - 30	40	40%
31 - 40	15	15%
41 - 50	25	25%
51 - 60	5	5%

Table 2: Distribution of patients according to age

Out of 25 patients taking oral antihistamines and nasal decongestants 50% showed good result that is they showed improvement in nasal obstruction and decrease in symptoms of sneezing, itching and nasal discharge, 25% showed satisfactory results and 25% showed poor results. Out of other 25 patients taking oral antihistamine, nasal decongestants and steroid spray 50% showed good results, 30% showed satisfactory results and 20% showed poor results.

Out of other 25 patients taking oral antihistamine, nasal decongestants and mast cell stabilizers 50% showed good results, 35% showed satisfactory results and 15% showed poor results.

Out of last 25 patients taking specific immunotherapy and avoidance of specific allergen 80% showed good results, 15% showed satisfactory results, 5% showed poor results. Dropout rate is minimised by taking the mobile numbers of the patients and proper pre-treatment counselling. Dropout rate is 2% in fourth group but we contacted the patient on mobile and enquired about the outcome.

Treatment Given	Number of Patients	RESULTS (Percentage)		
		Good	Satisfactory	Poor
Antihistamines+ Nasal Decongestants	25	50%	25%	25%
Antihistamines+ Nasal Decongestants+ Corticosteroid Sprays	25	50%	30%	20%
Antihistamines+Nasal Decongestants + Mast cell stabilizers	25	50%	35%	15%
Specific Immunotherapy+ Avoidance	25	80%	15%	5%

Table 3: Results

DISCUSSION

The management of allergic rhinitis typically combines allergen avoidance, medication and immunotherapy. Although total allergen avoidance may be effective, complete avoidance is rather difficult and additional pharmacotherapy is almost always essential. Yet allergen avoidance is still the first step of management. Pharmacotherapy comprises a wide variety of medications like oral antihistamines, topical corticosteroids, oral corticosteroids, topical decongestants, chromones, anticholinergics and anti-leukotrienes.

Antihistamines rapidly relieve running nose, itching and sneezing, but have little or no effect on blockage. Antihistamines are now thought to act as inverse agonists.³ and to have some anti-inflammatory effects. They appear to be more effective if used regularly rather than intermittently and may reduce allergic progression in mild-to-moderate intermittent cases. Topical steroids are the most effective treatment for allergic rhinitis if started prior to allergen exposure. In three large retrospective studies, topical steroids reduced the relative risk of asthma exacerbation /hospitalization by 50 percent or more if combined with antihistamines.⁴

A recent randomized double-blind controlled study,⁵ evaluated the efficacy of a combination of a nasal steroid with a nasal antihistamine. The trial demonstrated a better efficacy of a nasal steroid combined with nasal antihistamine, compared to nasal steroid or nasal antihistamine alone. The combined medication acted faster than the medications singly. Sodium cromoglicate spray, which is a mast cell stabilizer is weakly effective against all rhinitis symptoms, but needs to be used three or four times daily and this limit compliance. Topical decongestants reduce nasal obstruction, but increase rhinorrhoea. Regular use for more than a few days can result in rhinitis medicamentosa.

Systemic decongestants are relatively ineffective and have side effects such as hyperactivity and insomnia in children and hypertension in adults.

Allergen immunotherapy involves the repeated administration of an allergen extract in order to induce a state of immunological tolerance, with a reduction in clinical symptoms and requirements for medication during subsequent natural allergen exposure. Allergen immunotherapy suppresses the allergen-induced late response and diminishes the immediate phase via prevention of allergen-driven Th2 responses, including reductions in levels of interleukin (IL)-4, IL-13, IL-5, and IL-9. Immunotherapy is the only treatment with an effect that persists after treatment discontinuation.

Allergen immunotherapy results in a long-term reduction in serum allergen-specific IgE levels. Significant reductions in the early-phase response have also been demonstrated. It could also help prevent incident asthma (new asthma cases in cohorts of patients suffering from allergic rhinitis).⁶ In the first season of therapy, immunotherapy with single-species grass pollen extract reduced symptoms and medication requirements in subjects with persistent moderate-severe allergic rhinitis inadequately controlled with standard drug therapy. These effects were even more marked in the peak pollen season. The beneficial effects of grass pollen have been reported previously.⁷ This is the first large-scale, randomized, controlled immunotherapy study performed including polysensitized subjects, provided grass pollen was the principal cause of symptoms.⁸

Renewed interest in immunotherapy is timely because recent studies suggest that immunotherapy not only induces long-term disease remission,⁹ but also can reduce the onset of new atopic sensitizations.¹⁰⁻¹² and at least in children, prevents the progression of rhinitis to asthma. Because of the cumbersome nature of the treatment and small risk of serious systemic reactions, immunotherapy should be restricted to patients with severe persistent disease. Although immunotherapy is not widely practised, it is highly effective in selected patients suffering with severe persistent allergic rhinitis.

CONCLUSION

Untreated allergic rhinitis represents a major cause of morbidity that includes interference with usual daily activities and impaired sleep quality. We conclude that identification of causative allergens, avoidance and specific immunotherapy has been clinically demonstrated to provide long-term clinical benefits, including symptomatic disease remission. Allergen immunotherapy and avoidance of specific allergen has also demonstrated long-term effectiveness in symptom reduction more than 2 years following treatment cessation and has prevented the development of new sensitizations.

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