

## Management of allergic rhinitis in general practitioners

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For patients suffering from allergic rhinitis (AR), general practitioners (GPs) are often their first source of medical advice. It is one of the top-ten reasons for a visit to the primary care clinics and AR was estimated to be 10-40% of the total patient visits in about 50% of the primary care clinics. The standard of management for AR among GPs is thus a key outcome assessment of AR management and implementation of international guidelines in general healthcare practice.

**Key words:** Allergic rhinitis; General practitioners; Primary care clinics; Diagnosis; Effective treatment

### INTRODUCTION

Allergic rhinitis (AR) is a common manifestation of allergic diseases, which affect approximately 10-25% of the world population [1]. The symptoms of AR, rhinorrhea, nasal obstruction, itching, and sneezing, are spontaneously caused by exposure to allergens and triggering factors, and may be reversible [1-3]. AR is a major airway disease, which causes morbidity, health care expenditures, and significantly impairs a patient's ability to function and their quality of life. It is also co-morbid with asthma, sinusitis, anosmia, otitis media, nasal polyps, lower airway infections, and dental malocclusion [1, 2].

### AR in primary care clinics

For patients suffering from AR, general practitioners are often

their first source of medical advice [4]. It is one of the top-ten reasons for a visit to the primary care clinics [5] and AR was estimated to be 10-40% of the total patient visits in about 50% of the primary care clinics [6]. It has been reported in a population-based survey study that 71% of the rhinitis patients visited a primary care physician and only 18% an Otolaryngologist (ENT specialist) in Singapore [7].

As many rhinitis patients rely on their general practitioners (GPs) for the diagnosis and treatment of their symptoms, general healthcare practices represent an interesting and important target to be evaluated as part of the management of AR [4]. During the past few years, international guidelines and consensus statements for the management of AR have been developed to enhance the effectiveness and quality of management for AR patients [1-3]. However, the impact of these guidelines on the

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physician's management of AR patients in primary care practice is still not fully understood due to a limited numbers of studies [4-12].

### International guidelines and consensus statements for the management of AR

During the last 10-15 years, international guidelines and consensus statements have been developed to provide clinicians with basic recommendations for the diagnosis and management of rhinitis. Attention has focused on an improved understanding of the pathophysiological mechanisms underlying allergic inflammation which has led to the modification of therapeutic strategies, including the introduction of new drugs, routes of administration, dosages and schedules. In 2001, a WHO Initiative: Allergic Rhinitis and its Impact on Asthma (ARIA) has been developed by an international working group [1]. It was intended to produce a state-of-the-art document on pathophysiological mechanisms underlying allergic inflammation of the airways, the impact of AR on asthma, an evidence-based documented revision on diagnostic methods and treatments, and a stepwise approach to the management of the disease. An update of ARIA 2008 was published in 2008 [2].

More recently, ARIA 2010 revision is published with an objective to develop explicit, unambiguous, and transparent clinical and practical recommendations systematically for the treatment of AR on the basis of current best evidence following the GRADE approach [3]. In this document, it presents 10 recommendations about the primary, secondary, and tertiary prevention of allergy, AR, and asthma; 31 recommendations about the management of AR; and 7 recommendations about the management of AR and asthma in the same patient. Statements about the underlying values and preferences as well as the remarks are integral parts of the recommendations and serve to facilitate accurate interpretation. Patients, clinicians, and policy makers are encouraged to use these recommendations in their daily practice and to support their decisions.

### Management of AR patients in primary care practice

In the United Kingdom, a national baseline audit of GPs with a self-declared interest in allergic and respiratory disorders revealed considerable scope for improvement in GP awareness and management of AR [8]. In this study, only 14% of GPs satisfied all the criteria set for identification of symptoms; 23% satisfied criteria for collection of information to support a clinical diagnosis; 0% satisfied criteria for examination and investigations performed to

support the clinical diagnosis; and 0.6% satisfied criteria set for adequate treatment issued. In France, it was shown that the habits of medical practices (by GPs) are often, but not always, consistent with the most recent international consensus reports [10].

A standard diagnostic approach recommended by ARIA is a careful history, a nasal examination and allergy tests (skin tests, *in vitro* tests or even nasal challenge) to confirm or exclude an allergic etiology [1-3]. However, due to the lack of technical support and manpower in most GPs' clinics, allergy tests are not commonly performed (around 50%) by GPs [4, 6]. In addition, it has been argued that the common nasal allergies can be diagnosed with a careful study of symptoms and the response to initial treatment [9]. This is a critical controversy that will affect significantly the standardization of allergy diagnosis. It is not possible to differentiate the type of rhinitis (infectious, allergic or other origins) based solely on symptom measures, especially for persistent allergic rhinitis (PER). Therefore, a consensus has to be made by multidisciplinary medical organizations (e.g., allergology, otolaryngology and GPs) in order to avoid an inconsistent or mistaken diagnosis of AR.

The standard of management for AR among GPs is thus a key outcome assessment for implementation of international guidelines. In Belgium, a study was able to show that when compared strictly with the ARIA recommendations, 49% of the patients with mild and/or intermittent AR were over-treated, whereas about 30% of those with moderate/severe persistent rhinitis were under-treated [4]. This study suggests that further efforts are required to disseminate and implement evidence-based diagnostic and treatment guidelines for AR in primary healthcare practice.

The GPs considered perennial allergic rhinitis (PAR) to be more difficult to treat than seasonal allergic rhinitis, and GP and patient level of satisfaction in the treatment of PAR was low [11]. A similar result was found in a population study in Singapore where PER is almost exclusively the pattern of AR seen, due to a typical tropical climate and high indoor level of house dust mite allergens [7]. The effectiveness of treatment was generally considered unsatisfactory by the patients since the majority had only partial or no relief of their symptoms. Patient with PER will require treatment the year around which may affect the choice of treatment and cost of therapy. Most patients expect quick symptomatic relief with low cost medications.

In many countries, GPs are expected by the insurance companies and patients to provide both an office visit and medications for

a nominal fee. As a consequence, physicians must see a large number of patients to meet their overheads and do not take time to inform individual patients about their disease or to give lengthy instructions on how to use medications properly. A study performed in the Netherlands showed that GPs seem inclined to avoid co-payment for patients when these patients have financial difficulties and the disease is perceived as severe [12]. They chose fully reimbursed drugs. This may partially explain why an unexpected low use of nasal glucocorticosteroids and newer generation antihistamines, and a common use of nasal/oral decongestants in order to give quick symptomatic relief of nasal blockage.

Single or combined treatment using newer generation antihistamines and nasal glucocorticosteroids are recommended as standard pharmacologic agents in the treatment of AR [1-3]. In practice this concept has not always been accepted worldwide. It has been reported that only 45% of patients are treated with nasal glucocorticosteroids, compared to more than 90% with oral antihistamines [13]. In this study, almost all GPs (99.5%) indicated that they would prescribe H1-antihistamines (especially first generation) and nasal glucocorticosteroids (95.5%) in the treatment of AR. Our previous study showed an unexpected low use of nasal glucocorticosteroids sprays (3%) and antihistamines (6%) in community AR patients in Singapore [6]. In another study in Singapore, data shows that most GPs were up to-date with current progress in clinical allergy and pharmacologic research. They understood fairly well the efficacy, side effects and cost effectiveness of 1st and newer generations of H1-antihistamines and nasal glucocorticosteroids. However, the cost of the new H1-antihistamines can be over 100 times greater than the first generation H1-antihistamines. Nasal glucocorticosteroids sprays are also expensive, which is an important concern for patients with persistent (or perennial) AR who need long-term medication. It is therefore important that the appropriate use of nasal steroid sprays and the onset of clinical effectiveness need to be thoroughly explained to the patients.

In Singapore, PER is almost exclusively the pattern of AR seen, due to a typical tropical climate which is hot and humid throughout the entire year. The year-round warm and humid climate is conducive for the proliferation of dust mites and molds, two of the most common aeroallergens implicated in PAR. House-dust mites are the most common identified indoor allergens, and contribute to the development of AR and asthma. International studies have demonstrated that *Dermatophagoides pteronyssinus*,

*Dermatophagoides farinae*, and *Euroglyphus maynei* are the most common mite species worldwide [1]. These mites feed on human skin dander, and are particularly abundant in mattresses, pillows, and carpets. Their growth is maximal under hot (above 20°C) and humid conditions (80% relative humidity) [14, 15].

Patients with PER will require treatment the year around which may affect the choice of treatment and cost of therapy. Most patients expect quick symptomatic relief with low cost medications. In Singapore, as well as in many other countries, GPs are expected by the insurance companies and patients to provide both an office visit and medications for one nominal fee. As consequence physicians must see a large number of patients to meet their overheads and do not take time to inform individual patients about their disease or to give lengthy instructions on how to use medications properly. It may also explain why nasal decongestants are commonly used in order to give quick relief of nasal blockage. However, the prolonged use of topical nasal decongestants can actually be harmful, because of the risk of developing rhinitis medicamentosa. It should only be used for a short course (less than 7-10 days) to reduce severe nasal blockage, while co-administering other drugs such as nasal steroids [1-3].

## CONCLUSIONS

Management of AR is a major component of the practice for primary care clinics. It is important that international guidelines have clear criteria for the diagnosis of AR and practical recommendations for effective treatment. Local modifications may need to be made, but the standard for diagnosis and effective therapy of AR should not be compromised. Appropriate patient education by physicians with a good understanding of the nature of rhinitis and the available treatment options will maximize patient compliance and improve treatment outcomes.

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