

Allergic rhinitis: review of guidelines

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SUMMARY

Consensus on various topics of medical science are becoming common place at the end of the XXth century, especially in areas of medicine where controversies exist or in which improvements are required to decrease the prevalence and/or severity of a disease. It is therefore evident that an agreement had to be reached to reduce the prevalence, and morbidity of rhinitis, a common disease impairing quality-of-life. Two major guidelines have been published concerning the management of allergic rhinitis: the international consensus report on the diagnosis and management of rhinitis and the WHO position paper on allergen immunotherapy intitled therapeutic vaccines for allergic diseases. The objectives of the treatment of allergic diseases are [1] the reduction of symptoms due to allergen exposure. Allergen avoidance appears to be a major part of the treatment of the disease [2], the improvement of quality-of-life of patients [3], if possible alteration of the natural course of the disease although there is no data showing that any treatment may have such properties [4], avoidance of side effects induced by drugs, and [5] education of patients to improve the understanding of the disease and the compliance to treatment. These goals may be achieved using allergen avoidance which is always indicated, pharmacotherapy which is now safe and effective and allergen immunotherapy which may alter the natural course of the disease and improves the control symptoms.

KEY-WORDS: Immunotherapy. – H₁-blockers. – Topical corticosteroids. – Cromoglycate.

RÉSUMÉ

Rhinite allergique: recommandations actuelles. – Les consensus sur plusieurs sujets des sciences médicales deviennent communs à la fin du vingtième siècle, en particulier dans des domaines de la médecine où il existe des controverses, ainsi que dans ceux pour lesquels des améliorations sont nécessaires pour réduire la prévalence et/ou la sévérité d'une maladie. Il est ainsi évident qu'un consensus doit être proposé pour la rhinite, une affection dont la prévalence et la morbidité sont très importantes et qui altère la qualité de la vie. Deux recommandations importantes ont été publiées concernant le traitement et la prise en charge de la rhinite allergique: le consensus international sur le diagnostic et la prise en charge de la rhinite et la position de l'OMS sur l'immunothérapie spécifique, intitulé «Vaccin thérapeutique pour les maladies allergiques». Les objectifs du traitement des maladies allergiques sont représentés par 1) la réduction des symptômes induits par une exposition à l'allergène. L'éviction allergénique est une part importante du traitement de la maladie, bien que souvent incomplète, 2) l'amélioration de la qualité de la vie des patients, 3) si possible la modification de l'histoire naturelle de la maladie, bien qu'il n'y ait pas de résultats montrant qu'un traitement puisse avoir de tels effets, 4) la réduction des effets secondaires induits par les traitements, 5) l'éducation pour améliorer la compréhension de la maladie et l'observance thérapeutique. Ces buts peuvent être atteints en utilisant la pharmacothérapie, qui est maintenant efficace et bien tolérée, et l'immunothérapie aux allergènes, qui peut peut-être altérer l'évolution naturelle de la maladie et améliorer le contrôle des symptômes.

MOTS-CLÉS: Immunothérapie. – Antihistaminiques H₁. – Corticothérapie locale. – Cromoglycate.

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INTRODUCTION

Consensus on various topics of medical science are becoming common place at the end of the XXth century, especially in areas of medicine where controversies exist or in which improvements are required to decrease the prevalence and/or severity of a disease. It is therefore evident that an agreement had to be reached to reduce the prevalence, and morbidity of rhinitis, a common disease impairing quality-of-life. Therefore guidelines have been proposed [1-4] but the most recognized are those from the International Consensus on the Diagnosis and Management of Rhinitis [5] and the WHO guidelines on specific immunotherapy recently published [6].

Allergic rhinitis results from an IgE-mediated allergy associated with nasal inflammation of variable intensity. The mechanisms of allergic rhinitis have been clarified using nasal challenge with allergen or pro-inflammatory mediators and measuring cells and mediators released during the early and late phase allergic reaction. However, the priming effect of the nasal mucosa is of importance since a single challenge does not perfectly mimic the ongoing allergic reactions induced by repeated allergen exposure. In seasonal and chronic allergic rhinitis, the same cells and mediators are of importance but non-specific nasal hyperreactivity develops. The regulation of inflammation of allergic rhinitis is dependent on adhesion molecules and cytokines. A better understanding of the mechanisms of allergic rhinitis makes clearer the different treatment modalities [7].

Why do we need guidelines for the management of rhinitis?

Rhinitis represents one of the most common chronic pathological conditions throughout the world. It is estimated that 10-25 % of the population suffers from rhinitis both in developed and developing countries [8, 9]. Moreover, although good epidemiological evidence is difficult to obtain, it appears that the prevalence of rhinitis has actually increased during the past two or three decades. This may be related to changes in the allergenic environment and interactions between allergens and pollutants. It has been shown that passive smoking in infancy and diesel exhausts increase the prevalence of atopic diseases as well as pollution by vehicles may increase the allergenic content of pollens.

Rhinitis is usually not considered as a severe disease but it has been shown to impair signifi-

cantly quality-of-life [10]. Perennial rhinitis is often associated with sinusitis [11] which represents a significant disease in terms of costs since it is estimated that its medical costs are close to those of asthma. Consideration of frequency, severity, and site of symptoms is important in directing treatment efficacy and maximizing cost-effectiveness.

Objectives of the treatment of allergic rhinitis

The objectives of the treatment of allergic diseases are:

- the reduction of symptoms due to allergen exposure. Allergen avoidance appears to be a major part of the treatment of the disease;
- the improvement of quality-of-life of patients. Treatment should be aimed to maintain patients with a normal activity;
- if possible, alteration of the natural course of the disease although there is no data showing that any treatment may have such properties;
- avoidance of side effects induced by drugs;
- education of patients to improve the understanding of the disease and the compliance to treatment.

Guidelines on pharmacotherapy

Pharmacotherapy is a major treatment of allergic rhinitis. The prescription of drugs depends on several factors including the co-morbidity of rhinitis (asthma, conjunctivitis, sinusitis), the duration of allergen exposure (seasonal or perennial rhinitis) and the severity of the disease.

H1-blockers are widely used in the treatment of allergic diseases. During the last 15 years, pharmacological research has produced several compounds with higher potency, longer duration of action and minimal sedative effect: the so-called new or second generation H1-blockers, as opposed to the older, or classic H1-blockers [12, 13]. This class of drugs has recently been the focus of considerable medical scientific interest for their multiple antiallergic properties and cardiac side effects of some molecules. These drugs represent the first line treatment of allergic rhinitis in combination with topical steroids. These are probably the most potent drugs but they need to be administered by nasal route to avoid side effects and are little effective on conjunctivitis. Once daily corticosteroids aqueous nasal spray controls symptoms of most patients with seasonal allergic rhinitis [14]. Lack of hypothalamic-pituitary-adrenal axis suppression is usually observed

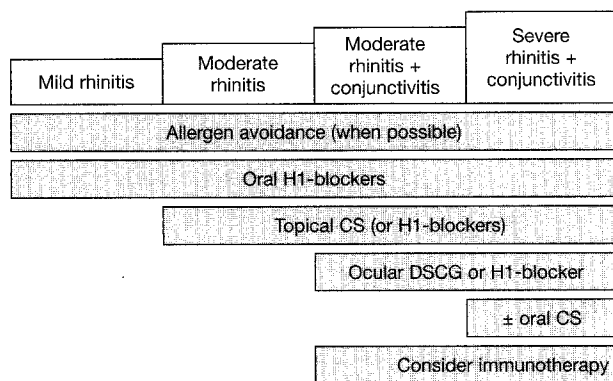


Fig. 1. – Management of seasonal allergic rhinitis (International Consensus on rhinitis 1994).

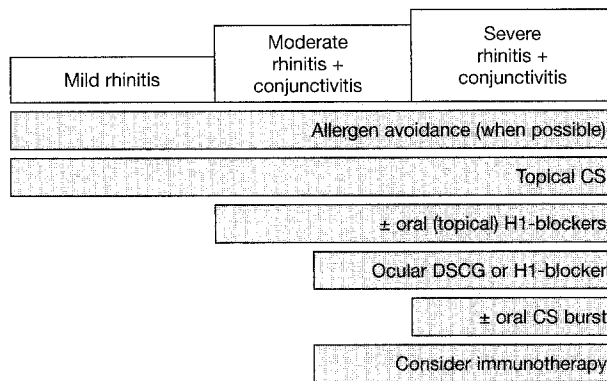


Fig. 2. – Management of perennial allergic rhinitis (International Consensus on rhinitis 1994).

using nasal corticosteroids. Other classes of drugs include cromoglycate, anti cholinergics and decongestants.

The International Consensus on Rhinitis attempted to classify drugs and to propose some guidelines for the management of allergic rhinitis [5].

In seasonal allergic rhinitis, it seems appropriate to begin treatment in mild cases using oral H1-blockers and, if symptoms are more severe to add topical corticosteroids and/or topical H1-blockers and/or ocular cromoglycate or H1-blocker (fig. 1).

In perennial allergic rhinitis, inflammation is a major feature and nasal corticosteroids represent the first line treatment. However, although they are considered to be less effective, H1-blockers were found to significantly improve quality-of-life [15] and should be considered, especially in children or in mild forms of the disease (fig. 2).

Nasal cromoglycate has been proposed to be used as a first line treatment in children.

Guidelines on specific immunotherapy

Indications of specific immunotherapy (SIT) differ depending upon the allergen or the disease considered [6]. Specific immunotherapy needs to be prescribed by specialists and administered by physicians who are trained to use emergency techniques if anaphylaxis occurs. Before starting SIT each patient should be carefully informed of risks, duration and effectiveness of this treatment and cooperation and compliance to the treatment are absolute requirements before starting it. The indications of SIT in asthma and rhinitis have been

separated in some guidelines [5, 16, 17] and this artificial separation has led to unresolved discussions [18, 19] possibly because the IgE-mediated reaction has not been considered as a multi-organ involvement. It is therefore important to consider SIT depending on the allergen sensitization rather than depending on the disease itself.

Before initiating SIT, avoidance of exposure to the allergen(s) causing the symptoms of the IgE-mediated reaction should always be attempted. Except in the case of animal dander, most common aeroallergens cannot be avoided completely and this is particularly true for patients allergic to house dust mites and those who are allergic to multiple allergens.

The indication for SIT in pollen-induced rhinitis is based on the severity of the disease and the duration of symptoms. It is commonly accepted that SIT is indicated in severe rhinoconjunctivitis [6] in which pharmacotherapy insufficiently controls symptoms, produce undesirable side effects or induce the fear for the patient to receive a long-term pharmacologic treatment. On the other hand, SIT is not usually necessary in mild to moderately severe pollinosis responding favorably to H1-blockers and topical drugs. SIT may however be prescribed if the season is prolonged as it is the case in Southern Europe, South Africa or California or in some polysensitized patients exposed to several subsequent pollen seasons (i.e. tree and grass pollen sensitivity). Since rhinoconjunctivitis is present in most if not all patients suffering from pollen allergy, and asthma occurs generally in the most severe patients, it is impossible to propose indications without considering all symptoms [20]. It also appears that SIT is indicated when asthma during the pollen

season complicates rhinoconjunctivitis. British recommendations have proposed that patients with asthma should be specifically excluded [21], but, this is the only guideline which has made this recommendation.

With mite allergens, the indications of SIT are less well characterized but can be considered especially if the patient presents asthma. In rhinitis, a course of topical steroids is often required at the beginning of SIT since symptoms are due to both allergy and inflammation. Only patients with severe and long-lasting symptoms in whom nasal reactivity to house dust mites has been confirmed by a challenge may be treated. Moreover, it seems appropriate to exclude patients who present with chronic sinusitis [6].

In animal dander allergy, allergen avoidance is the best choice. However, complete avoidance may sometimes be extremely difficult due to indirect exposure to pet allergens. SIT to cat or dog may be an alternative in patients in whom allergen eviction is incompletely effective, in occupational allergy and in some patients to whom the eviction of the animal may cause severe psychological trauma.

In mold allergy, the elimination of indoor allergen is favored and SIT may be restricted to patients only allergic to *Alternaria* and/or *Cladosporium*.

SIT with extracts of undefined allergens (house dust, bacteria, *Candida albicans*, insect dusts, Trichophyton...) should not be used [6, 22].

REFERENCES

1. Fornadley J.A., Corey J.P., Osguthorpe J.D. *et al.* – Allergic rhinitis : clinical practice guideline. Committee on Practice Standards, American Academy of Otolaryngic Allergy. *Otolaryngol. Head Neck Surg.*, 1996, 115, 115-122.
2. Kaliner M. – Allergy care in the next millennium : guidelines for the specialty. *J. Allergy Clin. Immunol.*, 1997, 99, 729-734.
3. Sellars S.L. – Consensus document - allergic rhinitis in South Africa (letter). *S. Afr. Med. J.*, 1997, 87, 624.
4. Lemanske R. Jr. – A review of the current guidelines for allergic rhinitis and asthma. *J. Allergy Clin. Immunol.*, 1998, 101, S392-S396.
5. International consensus report on the diagnosis and management of rhinitis. *Allergy*, 1994 (suppl. 19), 1-33.
6. Bousquet J., Lockey R., Malling H. – WHO Position paper. Allergen immunotherapy: Therapeutic vaccines for allergic diseases. *Allergy*, 1998, 53 (suppl. 54).
7. Bousquet J., Vignola A.M., Campbell A.M., Michel F.B. – Pathophysiology of allergic rhinitis. *Int. Arch. Allergy. Immunol.*, 1996, 110, 207-218.
8. Strachan D., Sibbald B., Weiland S. *et al.* – Worldwide variations in prevalence of symptoms of allergic rhinoconjunctivitis in children : the International study of asthma and allergies in childhood (ISAAC). *Pediatr. Allergy Immunol.*, 1997, 8, 161-176.
9. Wuthrich B., Brignoli R., Canevascini M., Gerber M. – Epidemiological survey in hay fever patients : symptom prevalence and severity and influence on patient management. *Schweiz Med. Wochenschr.*, 1998, 128, 139-143.
10. Juniper E.F. – Impact of upper respiratory allergic diseases on quality of life. *J. Allergy Clin. Immunol.*, 1998, 101, S386-S391.
11. Gordts F., Clement P.A. – Epidemiology and prevalence of aspecific chronic sinusitis. *Acta Otorhinolaryngol. Belg.*, 1997, 51, 205-208.
12. Simons F.E., Simons K.J. – The pharmacology and use of H₁-receptor-antagonist drugs. *N. Engl. J. Med.*, 1994, 330, 1663-1670.
13. Bousquet J., Campbell A., Canonica G. – H₁-receptor antagonists : structure and classification. In : Simons F. – *Histamine and H₁-receptor antagonists in allergic disease*. NY : Marcel Dekker Inc, 1996, 91-116.
14. Storms W.W. – Treatment of seasonal allergic rhinitis with fluticasone propionate aqueous nasal spray : review of comparative studies. *Allergy*, 1995, 50, 25-29.
15. Bousquet J., Duchateau J., Pignat J.C. *et al.* – Improvement of quality of life by treatment with cetirizine in patients with perennial allergic rhinitis as determined by a French version of the SF-36 questionnaire. *J. Allergy Clin. Immunol.*, 1996, 98, 309-316.
16. International consensus report on diagnosis and management of asthma. international asthma management project. *Allergy*, 1992, 47, 1-61.
17. Global strategy for asthma management and prevention. WHO/NHLBI workshop report. In : National Institutes of Health, National Heart, Lung and Blood Institute, Publication Number 95-3659, 1995.
18. Norman P. – Is there a role for immunotherapy in the treatment of asthma ? Yes. *Am. J. Respir. Crit. Care Med.*, 1996, 154, 1225-1228.
19. Barnes P. – Is there a role for immunotherapy in the treatment of asthma ? No. *Am. J. Respir. Crit. Care Med.*, 1996, 154, 1227-1228.
20. Varney V.A., Gaga M., Frew A.J., Aber V.R., Kay A.B., Durham S.R. – Usefulness of immunotherapy in patients with severe summer hay fever uncontrolled by antiallergic drugs. *BMJ*, 1991, 302, 265-269.
21. Position paper on allergen immunotherapy. Report of a BSACI working party. January-October 1992. *Clin. Exp. Allergy*, 1993, 3, 1-44.
22. Malling H., Wecke B. – Immunotherapy. position paper of the European Academy of allergy and clinical immunology. *Allergy*, 1993, 48 (suppl. 14), 9-35.

