State of the art

The need for clinical indicators in allergic rhinitis

Le besoin de marqueurs cliniques dans la rhinite allergique

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Abstract

The treatment of allergic rhinitis (AR) is now clearly established and appropriate treatment can improve the symptoms of AR. Furthermore, analogous to those available for asthma, treatment-related improvements in symptoms and quality of life (QoL) can be graded. There is no universally agreed indication that AR control should be measured directly. However, indicators of AR control have been formulated in multitude ways with both objective and subjective measurements. Evaluation of AR control can be based on a number of criteria, including: nasal and ocular symptoms (congestion, rhinorrhea, sneezing, pruritus, post-nasal drip); a patient-reported metric of QoL (i.e., impairment in sleep or daily activities) and satisfaction, objective measurements (e.g., peak nasal inspiratory flow, rhinomanometry, increased use of rescue medication). Many instruments, such as The Control of Allergic Rhinitis and Asthma Test (CARAT), Rhinitis Control Assessment Test (RCAT), Allergic Rhinitis Control Test (ARCT) and Visual Analog Scale (VAS) and other new questionnaires requiring validation have appeared and have been used in the assessment of the patient's clinical symptoms. Here, we review the criteria use for the assessment of AR control as well as the existing validated instruments. Specifically, we provide insight into their use in clinical practice.
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Keywords: Allergic rhinitis; Control; Severity; Score; Treatment

Résumé

Le traitement de la rhinite allergique (RA) est maintenant clairement établi et un traitement approprié doit amener une amélioration symptomatologique importante. Comme pour l'asthme, cette amélioration des symptômes ainsi que de la qualité de vie (QdV), liée au traitement, peut être mesurée. Il n'y a pas de recommandations précises et reconnues universellement à ce sujet. Néanmoins, des indicateurs pratiques du contrôle de la RA peuvent être formulés de diverses manières, au moyen de mesures subjectives et objectives. Ainsi, l'évaluation du contrôle de la RA peut être faite sur différents critères, y inclus : scores nasal et oculaire (congestion, rhinorrhée, éternuements, prurit, jetage postérieur) ; questionnaires d'évaluation de la QdV ou global de satisfaction (retentissement sur le sommeil et les activités quotidiennes) ; mesures objectives (débit de pointe inspiratoire nasal, rhinomanométrie, traitement symptomatique de secours). Plusieurs outils, tels le test de contrôle de la RA et de l'asthme (Control of Allergic Rhinitis and Asthma Test [CARAT]), test de l'évaluation du contrôle de la RA (Rhinitis Control Assessment Test [RCAT]), test de contrôle de la rhinite allergique (Allergic Rhinitis Control Test [ARCT]) et l'échelle visuelle analogique, ainsi que d'autres questionnaires nécessitant encore une validation ont émergé et ont été utilisés dans l'évaluation des symptômes de RA et de la réponse au traitement. Cet article se propose de revoir les critères utilisés et les outils validés dans l'évaluation du contrôle de la RA, avec plus précisément leur implémentation dans la pratique clinique.
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Mots clés : Rhinite allergique ; Contrôle ; Gravité ; Score ; Traitement

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1. Introduction

Allergic rhinitis (AR) is a common disease worldwide affecting over 25% of the population [1,2] and its prevalence is increasing. The direct and indirect health-care costs incurred by AR are substantial [3]. AR as a non-life threatening disease, affects quality of life (QoL), school performance and work productivity [4]. Moreover, nearly 40% of AR patients combine or will develop asthma [5], whereas almost 85% of asthma patients have rhinitis [6]. Despite the fact that approximately 50% of AR patients visit their doctor for their symptoms present at least 4 months a year [7], over half of AR patients do not seek medical advice in Europe [8].

In order to enhance the effectiveness and quality of management for AR, a number of international guidelines and consensus statements have been developed [9]. Allergic Rhinitis and its Impact on Asthma (ARIA) workshop (organized by the World Health Organization), was the first evidenced-based guidelines. It was published in 2001 and updated in 2008 and 2010 [6,10,11]. ARIA focuses on the assessment and treatment of AR based on QoL. It introduced a classification of AR ("intermittent" vs. "persistent" and "mild" vs. "moderate/severe") and AR management including allergen avoidance, pharmacotherapy, patient education, allergen immunotherapy and occasionally, surgical treatment.

Although the treatment guidelines are now well established, treated patients may report poor levels of satisfaction, with a frequent search for a combination of medications to better reduce their nasal/ocular symptoms [12]. Many patients with AR continue to be undertreated and are at risk for acute exacerbations, resulting in reduced productivity at work, school performance and QoL, triggering increased health-care costs and the use of oral corticosteroids. The fact that the level of AR control is often overestimated by both patients and physicians indicates that AR treatment guidelines alone are not enough to determine the assessment of AR control. The overestimation of AR control can result in failure to make the necessary adjustments to medication.

A measure of AR control should be used to evaluate treatment outcomes and simplify monitoring. As for the management of asthma following the introduction of the Global Initiative for Asthma (GINA) guidelines [13], the generalization of the "control" is now being considered as a trend in the management of patients with AR, chronic rhinosinusitis, chronic urticaria and atopic dermatitis [14]. There is currently no single definition of AR control, since its determination depends on the variables taken into account by the different available tools. Nevertheless, rhinitis control is essentially "absence of symptoms". Most of the control tools developed so far focus on measurements of daily or nocturnal symptoms, symptom magnitude (i.e., the patients' perception of how bothersome their symptoms are) and impairment in everyday activities. This article reviews the criteria utilized for the assessment of AR control as well as the existing validated instruments. Specifically, we provide insight into their use in clinical practice.

2. Allergic rhinitis control

Currently, there is not a standardized definition of AR control. The concept of disease control is only applicable in treated patients [15]. Based on an analogy with GINA [13] the concept of overall AR control may be considered as the degree of symptom reduction and of achievement of the treatment's goals. From this point of view, AR control can be measured in a multitude of ways, with both objective and subjective measurements and using patient-reported vs. physician-reported outcomes. Patient-reported metrics are growing in importance in clinical research and, increasingly, in patient care [16], although there is debate as to whether it is the physician or the patient that is best placed to judge disease control [17].

Therefore, evaluation of AR control can be based on a number of criteria, including: nasal and ocular symptoms (congestion, rhinorrhea, sneezing, pruritus, post-nasal drip); a patient-reported metric of QoL and satisfaction (i.e., impairment in sleep or daily activities); objective measurements (e.g., peak nasal inspiratory flow, rhinomanometry); the necessity for increased use of rescue medication and how much. The last is also important as it has been suggested that a patient's degree of control could simply correspond to the "strength" of the medication necessary to suppress symptoms [18]. Therefore, any increment in medication could indicate loss of control. Finally, presence of rhinitis comorbidities could also affect control, as 10% to 40% of rhinitis patients have comorbid asthma [19]. Practical tools are needed for patients and physicians to determine whether optimal AR care is provided or whether treatment strategies needed to be adjusted.

3. Instruments for assessing AR control

Several composite instruments, mainly self-administered questionnaires, have been developed over the years. The time period of assessment ranges from 1–4 weeks prior to the consultation, long enough to assess changes and short enough to avoid recall bias.

3.1. The Control of Allergic Rhinitis and Asthma Test (CARAT)

CARAT is a self-administered questionnaire (including 17 questions in a questionnaire with a Likert scale), initially developed by Nogueira-Silva et al. [20] for assessing control of both AR and asthma in patients with comorbid diseases, as recommended by ARIA. Subsequently, a simply 10-item version of CARAT (CARAT10) was validated in a cross-sectional study of 193 adults with AR and asthma from 15 outpatient clinics in Portugal [21]. The range of possible scores for CARAT10 is 0 (absence of control) to 30 (complete control), and the reference/evaluation period is 4–6 weeks. Fonseca et al. [22] observed good correlations between CARAT10 and Asthma Control Questionnaire (ACQ5), symptoms' visual analogue scales (VAS) and a simple binary yes/no physician's assessment of control. CARAT10 has adequate test-retest reliability