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Recent advances in the treatment of rhinitis and rhinosinusitis

G.K. Scadding*

Royal National TNE Hospital, Grays Inn Road, WC1 X8D London, UK

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1. Introduction

Allergic rhinitis has been recognized in recent years as a disease requiring attention. It is a global problem with increasing prevalence, and its symptoms of running, itching, sneezing and nasal obstruction can cause significant reduction in quality of life [1]. This is comparable to that of mild to moderate asthma or chronic back pain. Rhinitis causes a reduction in work place attendance of 3% to 4% in adults and children, and a reduction in work place or school efficiency of 30% to 40%. Not only does rhinitis impair children's learning; treatment with sedating antihistamines compounds the problem [2].

At present, we are failing to treat many rhinitis patients effectively. A recent UK survey showed only 34% of seasonal allergic rhinitis and 17% of perennial allergic rhinitis patients were well controlled [3]. It is tempting to think that new and better treatment is needed, but in fact better specific diagnosis, allergen avoidance arid more regular medication would almost certainly improve these figures.

Rhinitis has significant co-morbid associations. These include asthma, sinusitis, pharyngitis, otitis media with effusion and sleep problems; most is known about the asthma–rhinitis link [4].

2. Guidelines

Recognition of these facts has led to the publication of Allergic Rhinitis and its Impact on Asthma (ARIA) [5], a new set of rhinitis guidelines under the auspices of the

* Fax: +44-2079-151674.
E-mail address: g.scadding@ucl.ac.uk (G.K. Scadding).

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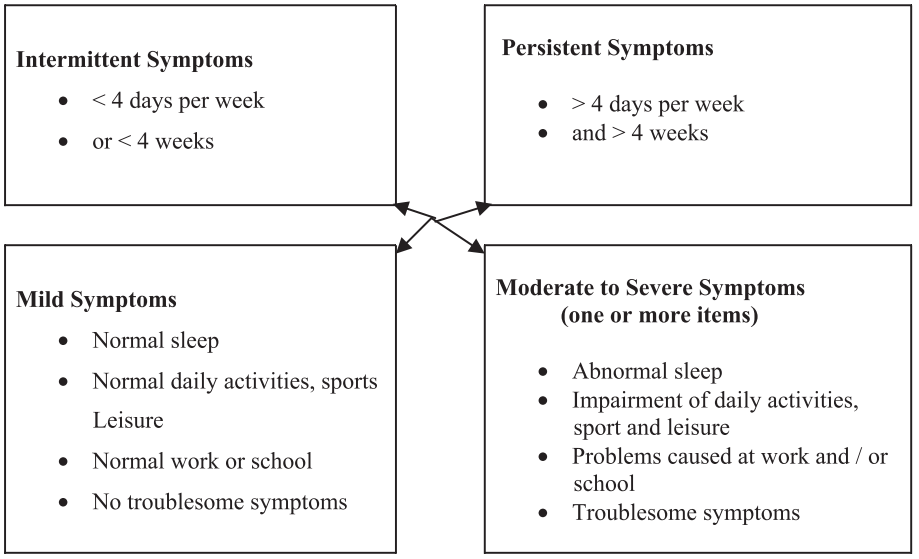

Fig. 1. Classification of rhinitis according to ARIA guidelines.

World Health Organization. These represent the first set of guidelines, which are evidence-based and view rhinitis as a global problem. In the ARIA document, rhinitis is classified as "intermittent" and "persistent" (Fig. 1), since this classification is applicable worldwide, whereas seasonal and perennial apply only to countries where there are seasons.

3. Validation of guidelines

The European rhinitis guidelines have recently been validated in a study in three countries in which, seasonal allergic rhinitic patients were treated either according to the guidelines or according to the preference of their primary care practitioner [6]. Guideline directed treatment resulted in lower symptom scores and better quality of life both at day 7 and at day 21. The probable reason for this was that non-directed treatment frequently involved mono-therapy and ignored the severity at disease, whereas directed therapy more frequently employed two or three different drug modalities according to symptoms arid severity.

4. Rhinitis treatment

The basic treatment plan for rhinitis according to the ARIA guidelines is shown in Fig. 2. The evidence level for each treatment modality is shown in Fig. 3. Treatment is based

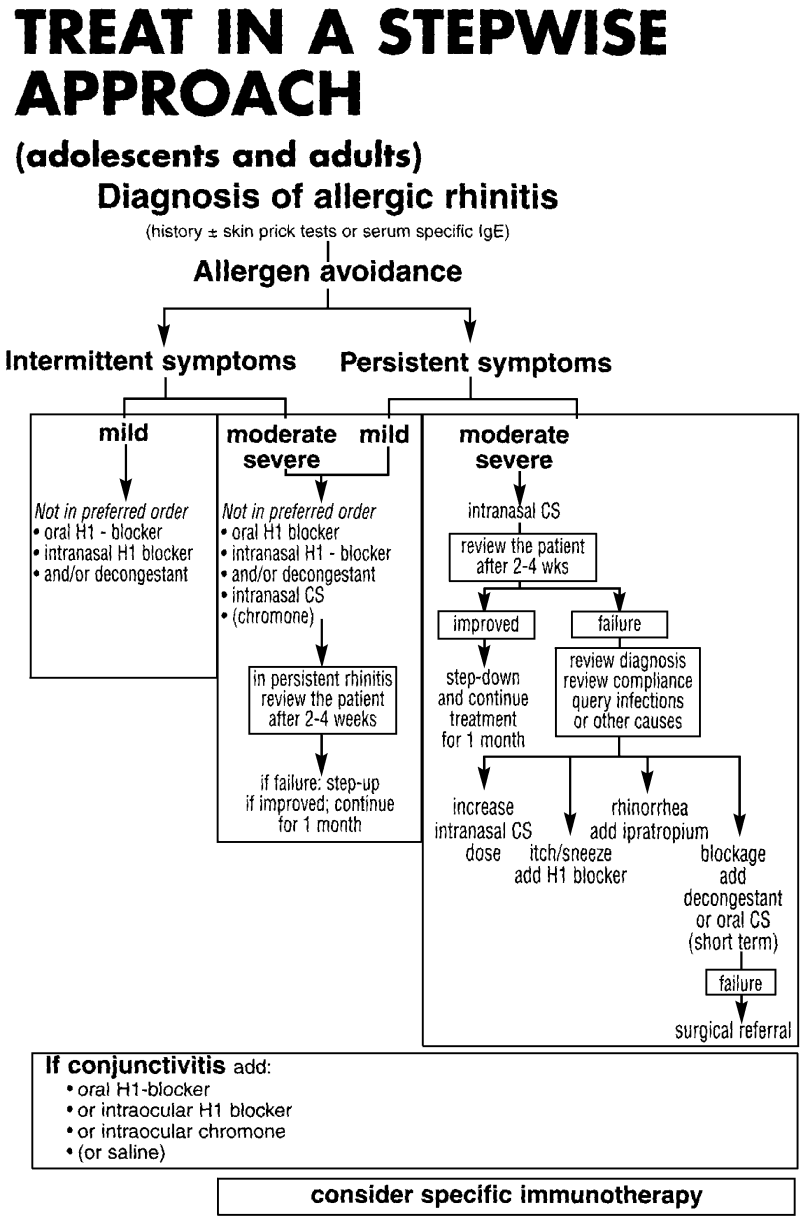

Fig. 2. Basic treatment plan for rhinitis according to ARIA guidelines.

RECOMMENDATIONS ARE EVIDENCE-BASED

- **Recommendations are evidence-based**

Based on randomised-controlled trials (RCT) carried out on studies performed with the previous classification of rhinitis:

- seasonal (SAR)
- and perennial (PAR) allergic rhinitis

- **The strength of recommendation is:**
  - A: recommendation based on RCT or meta-analysis
  - D: recommendation based on the clinical experience of experts

Intervention	Seasonal		Perennial	
	adult	children	adult	children
oral H1-antihistamines	A	A	A	A
intranasal H1-antihistamines	A	A	A	A
intranasal corticosteroids	A	A	A	A
intranasal chromones	A	A	A	
anti-leukotrienes	A			
subcutaneous SIT	A	A	A	A
sublingual SIT	A	A	A	
nasal SIT	A	A	A	
allergen avoidance	D	D	D	D

SIT: specific immunotherapy

For sublingual and nasal SIT, the recommendation is only for very high dose treatment

Fig. 3. Level of evidence for different rhinitis treatments.

upon disease severity and classification. Allergen identification and avoidance forms an important first step.

5. Antihistamines

These are frequently used to treat mild rhinitis since they are effective against running, itching and sneezing. The first- and second-generation antihistamines have relatively little effect on nasal blockage, even if used topically. A recently developed molecule—desloratadine (NeoClarityn)—does appear to have a consistent effect upon nasal blockage [7]. Other new antihistamines, levocetirizine and norastemizole, will become available shortly. A panel has been set up to judge criteria for the third generation antihistamines.

6. Topical corticosteroids

These are the mainstays of treatment for moderate to severe rhinitis. Meta-analysis has documented that they are superior to antihistamines in controlling symptoms [8]. Recent papers have demonstrated some reduction in childhood growth with beclomethasone and budesonide used twice daily, but not with mometasone, beclomethasone or budesonide used once daily [9]. Consideration needs to be given to those children receiving steroids at more than one site, i.e. those with asthma, rhinitis and possible eczema. In these cases the least bio available topical corticosteroids (mometasone and fluticasone) should be used.

Careful studies suggest that childhood growth is the most sensitive monitor of steroid bio-availability and that other effects such as adrenal suppression or osteoporosis are unlikely to occur at doses which permit normal growth [9]. However, there are yet insufficient data on bone metabolism and ocular effects.

Betamethasone nasal drops are frequently used in the treatment of nasal polyposis, but are extensively absorbed and have been reported as causing Cushing syndrome [10]. An alternative is now available in the form of fluticasone nasal drops (flixonase nasules). Each contains 400 mcgs of fluticasone propionate without preservative; absorption rate is 0.06%. They have been shown to reduce polyp size and improve nasal inspiratory peak flow [11].

7. Leukotriene receptor antagonists

These are antagonists of inflammatory mediators which are released from nasal cells and eosinophils in both the early and late phases of the allergic response. This new class of drugs became available for the treatment of asthma in the past 2 to 3 years. Subsequent experiments have shown, not surprisingly; they also have some effects on rhinitis, mainly on the relief of congestion and mucus production. Some studies demonstrate an additive effect with antihistamine [12], but this combination is not superior to topical corticosteroids used alone. Certain individuals respond well to these drugs, whereas others do not appear to respond at all. There are yet no predictive factors, even aspirin-sensitive patients do not invariably find leukotriene receptor antagonists helpful [13]. Pharmaco-genetic studies should eventually reveal the nature of this phenomenon.

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