Allergic rhinitis in South Africa: 2012 guidelines

R J Green, M Hockman, R Friedman, E Vardas, P Cole, A Halkas, C Feldman, on behalf of the South African Allergic Rhinitis Working Group (SAARWG)

Background. Allergic rhinitis (AR) is an important disease in South Africa. The South African Allergic Rhinitis Working Group (SAARWG) has published previous guidelines for AR diagnosis and management. Areas of concern have arisen that require additional information, including the management of AR in infancy, appropriate and inappropriate allergy testing, cost of AR management, diagnosis and distinguishing the condition from sinusitis, use of over-the-counter medications, and the concept of the 'united airway'.

Recommendations. Clinicians should consider the possibility of AR in infants with recurrent nasal symptoms. Allergy testing should be used wisely and based on local allergens. Total IgE testing is not routinely required to prove allergy. Acute and chronic sinusitis should be considered in conjunction with AR; treatment of rhinitis will improve these conditions. Over-the-counter medications should be used sparingly and with caution. Concern for long-term use of topical decongestants must be noted. Asthma should always be considered in AR diagnosis. Immunotherapy is available in SA and may be extremely useful in selected AR patients.

Conclusion. The SAARWG proposed an algorithm for the diagnosis and management of rhinitis in South Africa. AR is common, important and troubling to patients; therefore, every effort should be made to target therapy correctly. Patient education is important in the management of AR.

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1. Introduction

This report concerns problematic issues in the diagnosis and management of allergic rhinitis (AR) in South Africa, as reviewed by the South African Allergic Rhinitis Working Group (SAARWG) in February 2012.

2. AR in infants

Practical paediatric experience suggests that AR in infants, first reported in 1961,[1] is not uncommon. However, its prevalence is unknown and complicated by inconclusive studies suggesting that 'seasonal AR' is uncommon in the first 2 years of life.[2]

The 2003 prospective study on the influence of perinatal factors on the occurrence of asthma and allergies (PIPO) in Belgium surveyed 1 300 infants from the general population.[3] In the first phase of the study, 260 infants were monitored to the age of 1 year and subjected to a questionnaire, clinical examination and allergy testing. At the end of the first phase, 44% of the infants were reported to have snoring and noisy breathing, while positive allergy test results were reported in 21%. While this does not prove the existence of AR in infancy, it suggests that this diagnosis is probable in some infants.

The following symptoms should be sought where AR is considered in infants: noisy breathing, snuffles, snorting; snoring; sneezing; feeding difficulty; failure to thrive; irritability, disturbed sleep; watery nasal discharge; nose-rubbing on pillow/bedding/mother; recurrent serous otitis media; and cough/wheeze.

Features on examination that suggest AR in infants include: facial appearance (allergic facies); pallor; Dennie-Morgan lines; mouth-breathing; tongue thrusting; a pale, wet and swollen nasal mucosa; serous otitis media; and atopic dermatitis (often present).

Skin-prick tests are useful for identifying allergens, even in very young children, and they require only a limited panel. The most common allergens originate from foods (especially milk, peanut and wheat) and inhalants (especially house dust mite, cats and dogs).

There is no published literature on the manner in which to treat AR in infants. However, 3 aspects of treatment deserve mention:

(i) The avoidance of identified allergens and irritants (especially passive environmental tobacco smoke) is critical. Parents must also be advised to avoid unnecessary and potentially harmful therapies, including most over-the-counter (OTC) cough and cold medications and topical decongestants.

(ii) The use of saline nasal preparations should strongly be recommended.

(iii) All forms of therapy for older children (including antihistamines, topical corticosteroids and montelukast) are not registered for use in infants. While their use is often necessary, clinicians must be careful to balance efficacy with safety.

3. Laboratory-based allergy surveillance in private practice (2007 - 2011)

Allergy data from South Africa and Africa are limited, with infrequent updates on circulating aero-allergens and the possible impact of climate change. Existing studies are not generalisable, have small

Department of Paediatrics and Child Health, University of Pretoria
R J Green, MB BCh, FC Paed (SA), MMed (Paed), PhD, FRCP

Private Practice, Linksfield Clinic, Johannesburg
M Hockman, BSc, MB BCh, FCS (SA) (ORL)

Private Practice, Linksfield Clinic and Sandton Clinic, Johannesburg
R Friedman, MB BCh, FCS (SA) (ORL)

Lancet Laboratories and Division of Medical Virology, Faculty of Health Sciences, Tygerberg Campus, Stellenbosch University
E Vardas, BSc (Hons), MB BCh, DTM&H, DPH, MMed Virology, FC Path Clinical Virology (SA)

Lancet Laboratories, Johannesburg, South Africa
P Cole, MB BCh, MMed (Chem Path)

Private Practice, Netcare Krugersdorp Hospital
A Halkas, MB BCh, FC Paed (SA), MMed (Paed)

Charlotte Maxeke Johannesburg Academic Hospital and University of the Witwatersrand, Johannesburg
C Feldman, MB BCh, DSc, PhD, FRCP, FCP (SA)

Corresponding author: *R J Green (robin.green@up.ac.za)*

sample sizes and assess specific populations. Therefore, alternative ways to audit allergy data have been suggested, including laboratory surveillance of allergy test requests and identified allergens.[4]

To assess the usefulness of laboratory-based allergy surveillance, all allergy test requests and results from 1 September 2007 to 31 August 2011 were extracted from Lancet Laboratories (South Africa and Africa). Test results including total immunoglobulin E (IgE), ImmunoCAP, Immuno solid-phase allergen chip (ISAC), eosinophil cationic protein (ECP) and skin-prick tests were analysed, and data on trends (seasonal), location (country, province and district), doctor type and patient profile (age and sex) were collected.

In total, 1 150 493 allergy-related tests were requested (Table 1), including 129 848 requests for total IgE. Although clinical information was not available, it is assumed that total IgE requests were used primarily as part of an allergy work-up. Most published allergy testing guidelines from South Africa and the rest of the world discourage the use of total IgE as a screening test for allergy.[5,6] The SAARWG stresses the importance of an adequate history in uncovering likely allergens as a source of AR.

The 2011 total paediatric allergy testing expenditure of the large healthcare funder, Discovery Health, approximated R10 million. ImmunoCAP testing contributed to 66% of the expenditure, while 11.2% was spent on total IgE testing in children aged ≤16 years (Discovery Health, 2010). Directed testing according to established algorithms with appropriate screening and follow-up tests must be emphasised in practice.

4. Diagnosis of AR and sinusitis

AR is an inflammatory condition of the lining of the nose, characterised by nasal symptoms, including anterior or posterior rhinorrhoea, sneezing, nasal blockage and/or itching of the nose, often associated with ocular symptoms.[7] Itch, sneeze and profuse rhinorrhoea are classic of early AR. However, nasal obstruction manifests as a prominent symptom with time.[8] Ocular symptoms present with itchy, red and watery eyes.[9]

The diagnosis of sinusitis is guided by a recent European position paper on rhinosinusitis and nasal polyps (EPOS).[10] The document makes the case that acute rhinosinusitis is often viral and related to an upper respiratory tract infection (URTI) (Table 2). Acute bacterial sinusitis may be considered when symptoms persist for longer than 10 days. The diagnosis of chronic sinusitis is warranted by symptoms persisting for longer than 12 weeks.

5. AR and sinusitis treatment principles

Intranasal corticosteroids (INS) are the gold-standard first-line therapy for moderate/severe and/or persistent AR.[10] Several studies found INS to be more effective than anti-histamines (AH) against nasal symptoms.[7,11,12] INS treatment may optimise the control of co-morbidities such as asthma, sinusitis, conjunctivitis and otitis media.[13,14]

Acute bacterial sinusitis (ABS) is most often preceded by a viral URTI. Other factors that may lead to inflammation of the nose and paranasal sinuses and predispose to ABS include allergy, trauma and dental infection. Outcomes deemed necessary for managing ABS include eradication of bacterial pathogens from the site of infection, returning the sinuses to health, decreasing the duration of symptoms, preventing severe complications and decreasing the likelihood of chronic disease. There is mounting evidence that topical INS treatment is beneficial in managing ABS.[15,16]

Table 1. Allergy-related tests conducted by Lancet Laboratories, South Africa and Africa (2007 - 2011)

	Number of tests performed (*n*)				
Test	1 September 2007 - 31 August 2008	1 September 2008 - 31 August 2009	1 September 2009 - 31 August 2010	1 September 2010 - 31 August 2011	Total (1 September 2007 - 31 August 2011)
IgE	30 199	32 488	33 520	33 641	129 848
ECP	363	324	314	132	1 133
ImmunoCAP	201 941	244 597	258 104	250 109	954 751
ISAC	N/A	N/A	309	1 854	2 163
Skin-prick test	14 442	15 902	16 255	15 999	62 598
Total (*N*)	246 945	293 311	308 502	301 735	1 150 493

N/A = not available; ECP = eosinophil cationic protein; ISAC = Immuno solid-phase allergen chip.

Table 2. Diagnosis of acute and chronic sinusitis

Acute bacterial sinusitis (ABS)	Chronic rhinosinusitis without nasal polyps (CRSsNP)	Chronic rhinosinusitis with nasal polyps (CRSwNP)
Anterior or post-nasal discharge	Anterior or post-nasal discharge	Anterior or post-nasal discharge
OR	OR	OR
Nasal obstruction ± Facial pain/pressure ± Change in sense of smell	Nasal obstruction ± Facial pain/pressure ± Change in sense of smell	Nasal obstruction ± Facial pain/pressure ± Change in sense of smell
• Lasts >10 days and <3 months* • Severe lasting purulence or temperature • Worsening in <10 days	>12 weeks and no nasal polyps	>12 weeks and documented nasal polyps

*Acute URTI lasting <10 days, no lasting purulence, no worsening, no severe temperature = 'acute viral sinusitis' or 'a cold'.

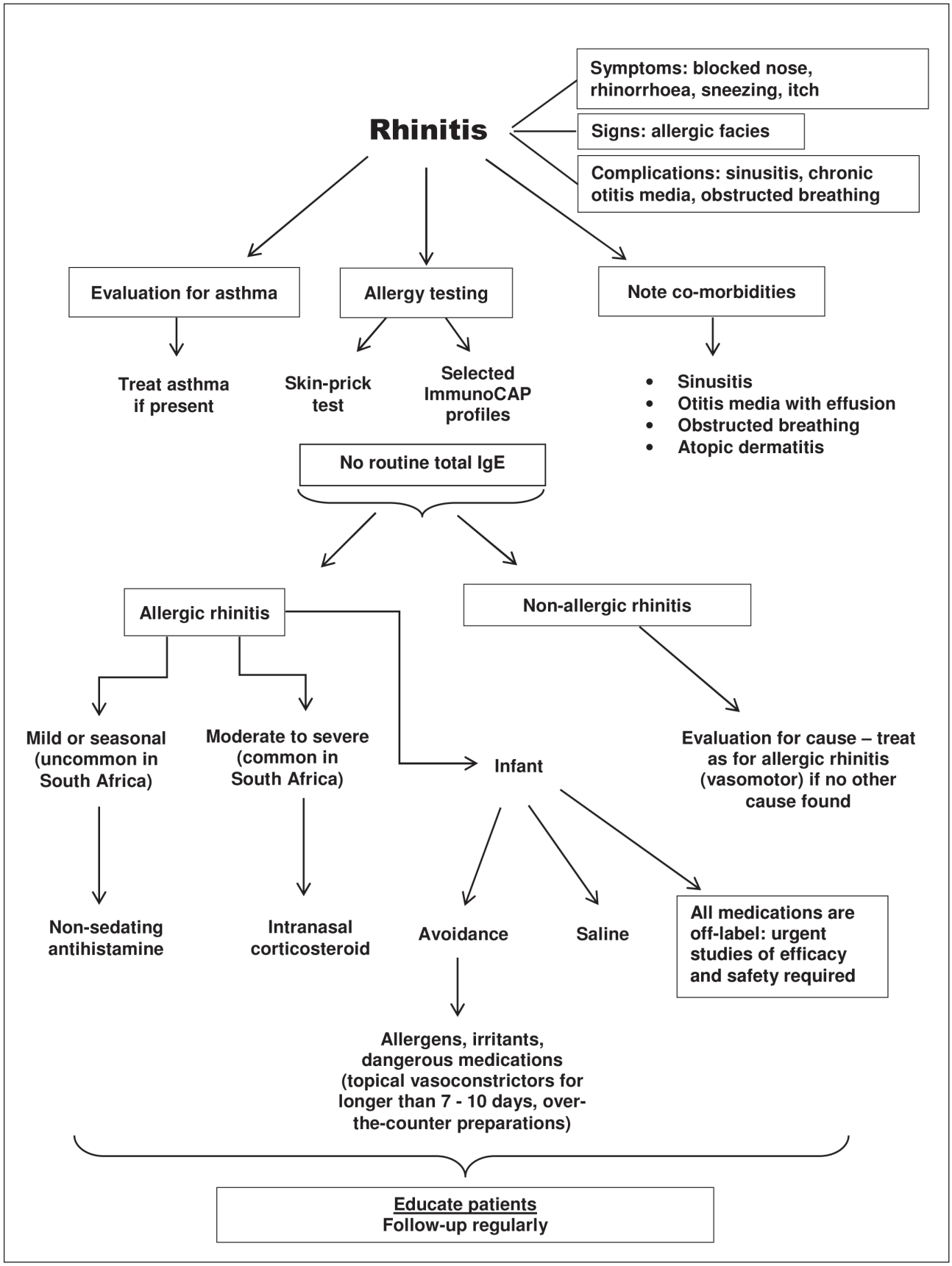

Fig. 1. Algorithm for the diagnosis and management of rhinitis.

6. Evidence for the value of OTC cough and cold medicines

OTC cough and cold medicines are frequently used by patients and often prescribed by doctors. Evidence is absent or negative for efficacy for many of these preparations. Cough mixtures have no proven value in adults or children in upper (URT) and lower respiratory tract (LRT) pathologies.[17] Mucolytic agents have been studied and a meta-analysis of 3 studies reveals that they have some benefit in URTIs.[18] Oral decongestants and antihistamines have not demonstrated efficacy in most clinical conditions.[19,20]

The lack of efficacy and unfavourable safety profile of many agents is a major concern. The use of most agents in young children has recently been restricted in the USA.[21] However, even legal restriction has not shown changed prescription or usage patterns in many countries.[22]

Topical decongestants improve the major symptoms of nasal congestion in AR. However, their use may produce rhinitis medicamentosa, which may occur as early as day 3 in some patients. Their use should therefore be restricted to no more than 7 - 10 days.[23]

7. The 'united airway' concept – renewed interest

Despite discussion by world experts on the link between AR and asthma, the SAARWG believes that the evidence strongly supports the concept of a 'united airway' and that the identification and management of both conditions (AR and asthma) improves symptoms and quality of life, reduces severity of disease and is cost-saving.[24-28]

The reasoning for a link between AR and asthma centres on the systemic nature of inflammation in these conditions operating on a common epithelium in both sites.[29]

8. Immunotherapy

Patients with persistent AR, affecting quality of life and resistant to maximal therapy, should be assessed for sensitisation. Patients who are monosensitive or 'clinically monosensitive' (i.e. sensitised to more than one allergen but with a clear pattern demonstrating one allergen as the important one) should be offered immunotherapy.[30]

9. Algorithm for the diagnosis and management of rhinitis

An algorithm proposed by the SAARWG for the diagnosis and management of rhinitis in South Africa is presented Fig. 1.

10. Conclusion

AR is common, important and troubling to patients; therefore, every effort should be made to target therapy correctly. Patient education is important in the management of AR.

SAARWG members: G Carter, G Des Marais, C Els, C Gravett, I Hunt, M Ossip, O F Jooma, A Manjra, L Maron, A Mc Cullogh, M McDonald, P C Potter, R Seedat, and L Woolf.

Endorsements. This Guideline is endorsed by the Allergy Society of South Africa.

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