

Allergic Rhinitis: An Underestimated Disease with Emerging Opportunities for Precision Care

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Allergic rhinitis (AR) is among the most common chronic diseases encountered in otorhinolaryngology practice, affecting individuals across all age groups. Traditionally considered a benign condition characterized by sneezing, rhinorrhea, nasal itching, and nasal obstruction, allergic rhinitis is increasingly recognized as a disease with substantial effects on quality of life, educational performance, workplace productivity, sleep quality, and healthcare expenditure. Despite its high prevalence and significant burden, allergic rhinitis remains underdiagnosed and undertreated, particularly in low- and middle-income countries where access to allergy services is limited.

The prevalence of allergic rhinitis has increased steadily worldwide over recent decades. Urbanization, environmental pollution, climate change, altered microbial exposure, and changing lifestyles have all been implicated in the rising incidence of allergic diseases. Current estimates suggest that allergic rhinitis affects up to 30% of adults and 40% of children globally. Importantly, the disease frequently coexists with asthma, chronic rhinosinusitis, conjunctivitis, and atopic dermatitis, highlighting its systemic nature rather than being an isolated nasal disorder. Recent guidelines emphasize the concept of “one airway, one disease,” recognizing the close relationship between upper and lower airway inflammation.^{1,2}

The burden of allergic rhinitis extends far beyond nasal symptoms. Nasal obstruction contributes significantly to sleep disturbance, fatigue, impaired concentration, mood disorders, and reduced academic and occupational performance. Children with uncontrolled allergic rhinitis often experience learning difficulties and decreased school attendance. Adults may suffer reduced work productivity and increased absenteeism. These indirect costs frequently exceed direct healthcare expenditures, making allergic rhinitis a major public health concern.³

Accurate diagnosis remains the cornerstone of effective management. Diagnosis is generally based on characteristic symptoms supported by evidence of allergen sensitization through skin prick testing or serum-specific immunoglobulin E (IgE) testing. However, increasing recognition of phenotypic diversity has challenged the traditional classification of rhinitis. Conditions such as mixed rhinitis and local allergic rhinitis may mimic classical allergic rhinitis while remaining undetected by conventional testing. This evolving understanding highlights the need for more comprehensive diagnostic approaches and greater awareness among clinicians.⁴

Management strategies for allergic rhinitis have undergone substantial evolution. Allergen avoidance remains important but is often difficult to achieve completely. Pharmacotherapy continues to form the backbone of treatment, with intranasal corticosteroids representing the most effective first-line therapy for moderate to severe disease. Second-generation antihistamines, intranasal antihistamines, leukotriene receptor antagonists, and saline irrigation are valuable adjuncts depending on symptom severity and patient characteristics. Recent updates of the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines have reinforced evidence-based approaches to intranasal therapies and highlighted the importance of individualized treatment selection.⁵

Perhaps the most significant advance in recent years has been the growing role of allergen immunotherapy. Unlike conventional pharmacological treatments that primarily control symptoms, immunotherapy modifies the underlying disease process. Both subcutaneous and sublingual immunotherapy have demonstrated effectiveness in reducing symptoms, decreasing medication requirements, and improving quality of life. Furthermore, evidence suggests that immunotherapy may reduce the risk of progression to asthma and the development of new allergen sensitizations. As understanding of immunological mechanisms improves, allergen immunotherapy is increasingly viewed as a disease-modifying intervention rather than merely an adjunctive treatment.⁶

The emergence of precision medicine offers exciting opportunities for the future management of allergic rhinitis. Advances in molecular allergology, biomarker research, and digital health technologies are enabling more individualized therapeutic strategies. Rather than adopting a “one-size-fits-all” approach, clinicians may soon be able to tailor treatments based on specific endotypes, inflammatory pathways, genetic susceptibility, and environmental exposures. Such approaches have the potential to improve treatment outcomes while minimizing unnecessary medication use.⁷

Environmental factors remain particularly relevant in South Asian countries, including Nepal. Rapid urbanization, increasing vehicular emissions, indoor air pollution from biomass fuels, seasonal pollen exposure, and changing climatic conditions may all contribute to the growing burden of allergic respiratory disease. Yet, local epidemiological data remain limited. Strengthening research on allergen profiles, disease prevalence, and treatment outcomes within Nepalese populations is essential for developing context-specific management strategies and public health interventions.

The role of otorhinolaryngologists in allergic rhinitis management continues to expand. Beyond symptom control, ENT specialists are uniquely positioned to identify associated conditions such as chronic rhinosinusitis, nasal polyposis, adenoid hypertrophy, eustachian tube dysfunction, and sleep-disordered breathing. A multidisciplinary approach involving allergists, pulmonologists, pediatricians, and primary care physicians is often necessary to achieve optimal outcomes.

As healthcare systems increasingly embrace personalized medicine, allergic rhinitis should no longer be viewed as a trivial nuisance. It is a chronic inflammatory disorder with substantial individual and societal consequences. Early diagnosis, evidence-based treatment, patient education, and continued research are essential for improving disease control and quality of life. The challenge ahead lies not only in treating symptoms but also in understanding disease heterogeneity and implementing precision-based approaches that address the unique needs of each patient.

For countries such as Nepal, where allergy services remain limited, strengthening awareness, expanding diagnostic capabilities, and promoting research in allergic diseases should be considered important healthcare priorities. Recognizing allergic rhinitis as a significant chronic disease rather than a minor inconvenience is the first step toward achieving better patient outcomes.

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