Supplement to
Otolaryngology–
Head and Neck Surgery
Official Journal of the American Academy of Otolaryngology—Head and Neck Surgery Foundation

Volume 152 Supplement 1 February 2015

Clinical Practice Guideline: Allergic Rhinitis

Michael D. Seidman, MD, Richard K. Gurgel, MD, Sandra Y. Lin, MD,
Seth R. Schwartz, MD, MPH, Fuad M. Baroody, MD,
James R. Bonner, MD, Douglas E. Dawson, MD, Mark S. Dykewicz, MD,
Jesse M. Hackell, MD, Joseph K. Han, MD, Stacey L. Ishman, MD, MPH,
Helene J. Krouse, PhD, ANP-BC, CORLN, Sonya Malekzadeh, MD,
James (Whit) W. Mims, MD, Folashade S. Omole, MD,
William D. Reddy, LAc, DiplAc, Dana V. Wallace, MD,
Sandra A. Walsh, Barbara E. Warren, PsyD, MEd,
Meghan N. Wilson, MD, and Lorraine C. Nnacheta, MPH

AMERICAN ACADEMY OF
OTOLARYNGOLOGY–
HEAD AND NECK SURGERY
FOUNDATION

AMERICAN ACADEMY OF OTOLARYNGOLOGY–HEAD AND NECK SURGERY FOUNDATION

Otolaryngology–Head and Neck Surgery
2015, Vol. 152(1S) S1–S43

DOI: 10.1177/0194599814561600
http://otojournal.org
SAGE

Clinical Practice Guideline: Allergic Rhinitis

Michael D. Seidman, MD[1], Richard K. Gurgel, MD[2], Sandra Y. Lin, MD[3], Seth R. Schwartz, MD, MPH[4], Fuad M. Baroody, MD[5], James R. Bonner, MD[6], Douglas E. Dawson, MD[7], Mark S. Dykewicz, MD[8], Jesse M. Hackell, MD[9], Joseph K. Han, MD[10], Stacey L. Ishman, MD, MPH[11], Helene J. Krouse, PhD, ANP-BC, CORLN[12], Sonya Malekzadeh, MD[13], James (Whit) W. Mims, MD[14], Folashade S. Omole, MD[15], William D. Reddy, LAc, DiplAc[16], Dana V. Wallace, MD[17], Sandra A. Walsh[18], Barbara E. Warren, PsyD, MEd[18], Meghan N. Wilson, MD[19], and Lorraine C. Nnacheta, MPH[20]

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

Abstract

Objective. Allergic rhinitis (AR) is one of the most common diseases affecting adults. It is the most common chronic disease in children in the United States today and the fifth most common chronic disease in the United States overall. AR is estimated to affect nearly 1 in every 6 Americans and generates $2 to $5 billion in direct health expenditures annually. It can impair quality of life and, through loss of work and school attendance, is responsible for as much as $2 to $4 billion in lost productivity annually. Not surprisingly, myriad diagnostic tests and treatments are used in managing this disorder, yet there is considerable variation in their use. This clinical practice guideline was undertaken to optimize the care of patients with AR by addressing quality improvement opportunities through an evaluation of the available evidence and an assessment of the harm-benefit balance of various diagnostic and management options.

Purpose. The primary purpose of this guideline is to address quality improvement opportunities for all clinicians, in any setting, who are likely to manage patients with AR as well as to optimize patient care, promote effective diagnosis and therapy, and reduce harmful or unnecessary variations in care. The guideline is intended to be applicable for both pediatric and adult patients with AR. Children under the age of 2 years were excluded from the clinical practice guideline because rhinitis in this population may be different than in older patients and is not informed by the same evidence base. The guideline is intended to focus on a limited number of quality improvement opportunities deemed most important by the working group and is not intended to be a comprehensive reference for diagnosing and managing AR. The recommendations outlined in the guideline are not intended to represent the standard of care for patient management, nor are the recommendations intended to limit treatment or care provided to individual patients.

Action Statements. The development group made a *strong recommendation* that clinicians recommend intranasal steroids for patients with a clinical diagnosis of AR whose symptoms affect their quality of life. The development group also made a *strong recommendation* that clinicians recommend oral second-generation/less sedating antihistamines for patients with AR and primary complaints of sneezing and itching. The panel made the following *recommendations*: (1) Clinicians should make the clinical diagnosis of AR when patients present with a history and physical examination consistent with an allergic cause and 1 or more of the following symptoms: nasal congestion, runny nose, itchy nose, or sneezing. Findings of AR consistent with an allergic cause include, but are not limited to, clear rhinorrhea, nasal congestion, pale discoloration of the nasal mucosa, and red and watery eyes. (2) Clinicians should perform and interpret, or refer to a clinician who can perform and interpret, specific IgE (skin or blood) allergy testing for patients with a clinical diagnosis of AR who do not respond to empiric treatment, or when the diagnosis is uncertain, or when knowledge of the specific causative allergen is needed to target therapy. (3) Clinicians should assess patients with a clinical diagnosis of AR for, and document in the medical record, the presence of associated conditions such as asthma, atopic dermatitis, sleep-disordered breathing, conjunctivitis, rhinosinusitis, and otitis media. (4) Clinicians should offer, or refer to a clinician who can offer, immunotherapy (sublingual or subcutaneous) for patients with AR who have inadequate response to symptoms with pharmacologic therapy with or without environmental controls.

The panel *recommended against* (1) clinicians routinely performing sinonasal imaging in patients presenting with symptoms consistent with a diagnosis of AR and (2) clinicians offering

oral leukotriene receptor antagonists as primary therapy for patients with AR.

The panel group made the following options: (1) Clinicians may advise avoidance of known allergens or may advise environmental controls (ie, removal of pets; the use of air filtration systems, bed covers, and acaricides [chemical agents formulated to kill dust mites]) in patients with AR who have identified allergens that correlate with clinical symptoms. (2) Clinicians may offer intranasal antihistamines for patients with seasonal, perennial, or episodic AR. (3) Clinicians may offer combination pharmacologic therapy in patients with AR who have inadequate response to pharmacologic monotherapy. (4) Clinicians may offer, or refer to a surgeon who can offer, inferior turbinate reduction in patients with AR with nasal airway obstruction and enlarged inferior turbinates who have failed medical management. (5) Clinicians may offer acupuncture, or refer to a clinician who can offer acupuncture, for patients with AR who are interested in nonpharmacologic therapy. The development group provided *no recommendation* regarding the use of herbal therapy for patients with AR.

Keywords

allergic rhinitis, allergic rhinitis immunotherapy, surgical management of allergic rhinitis, medical management of allergic rhinitis, allergic rhinitis and steroid use/antihistamine use/decongestant use, allergic rhinitis and complementary/alternative/integrative medicine, acupuncture, herbal therapies, diagnosis of allergic rhinitis, nasal allergies, hay fever, atopic rhinitis, atrophic rhinitis, pollinosis, catarrh

Received September 18, 2014; revised October 22, 2014; accepted November 5, 2014.

Introduction

Allergic rhinitis (AR) is one of the most common diseases affecting adults.[1] It is the most common chronic disease in children in the United States today[2] and is the fifth most common chronic disease in the United States overall.[3] AR is estimated to affect nearly 1 in every 6 Americans and generates $2 to $5 billion in direct health expenditures annually.[4,5] It can impair quality of life and, through loss of work and school attendance, is responsible for as much as $2 to $4 billion in lost productivity annually.[4,5] Not surprisingly, myriad diagnostic tests and treatments are used in managing patients with this disorder, yet there is considerable variation in their use. This clinical practice guideline was undertaken to optimize the care of patients with AR by addressing quality improvement opportunities through an evaluation of the available evidence and an assessment of the harm-benefit balance of various diagnostic and management options.

For the purpose of this guideline, AR is defined as an immunoglobulin E (IgE)–mediated inflammatory response of the nasal mucous membranes after exposure to inhaled allergens. Symptoms include rhinorrhea (anterior or post nasal drip), nasal congestion, nasal itching, and sneezing. AR can be seasonal or perennial, with symptoms being intermittent or persistent. **Table 1** summarizes the common terms used for this guideline.

Defining Allergic Rhinitis

AR is an inflammatory, IgE-mediated disease characterized by nasal congestion, rhinorrhea (nasal drainage), sneezing, and/or nasal itching. It can also be defined as inflammation of the inside lining of the nose that occurs when a person inhales something he or she is allergic to, such as animal dander or pollen; examples of the symptoms of AR are sneezing, stuffy nose, runny nose, post nasal drip, and itchy nose.

AR may be classified by (1) the temporal pattern of exposure to a triggering allergen, such as *seasonal* (eg, pollens), *perennial/year-round* (eg, dust mites), or *episodic* (environmental from exposures not normally encountered in the patient's environment, eg, visiting a home with pets); (2) frequency of symptoms; and (3) severity of symptoms. Classifying AR in this manner may assist in choosing the most appropriate treatment strategies for an individual patient.

In the United States, AR has traditionally been viewed as either seasonal or perennial, and this is the classification system that the Food and Drug Administration (FDA) uses when approving new medications for AR. However, it is recognized that this classification system has limitations, as the length of the aeroallergen pollen season is dependent on geographic location and climatic conditions. When the pollen season is year-round, as in tropical locations, it can be very difficult based on history to distinguish allergic symptoms provoked

[1]Department of Otolaryngology–Head and Neck Surgery, Henry Ford West Bloomfield Hospital West Bloomfield, Michigan, USA; [2]Department of Surgery Otolaryngology–Head and Neck Surgery University of Utah, Salt Lake City, Utah, USA; [3]Johns Hopkins School of Medicine, Department of Otolaryngology–Head and Neck Surgery, Baltimore, Maryland, USA; [4]Virginia Mason Medical Center, Seattle, Washington, USA; [5]University of Chicago Medical Center, Department of Otolaryngology, Chicago, Illinois, USA; [6]Birmingham VA Medical Center, Birmingham, Alabama, USA; [7]Otolaryngology, Private Practice, Muscatine, Iowa, USA; [8]Department of Internal Medicine, St Louis University School of Medicine, St Louis, Missouri, USA; [9]Pomona Pediatrics, Pomona, New York, USA; [10]Eastern Virginia Medical School, Norfolk, Virginia, USA; [11]Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA; [12]Wayne State University, Philadelphia, Pennsylvania, USA; [13]Georgetown University Hospital, Washington, DC, USA; [14]Wake Forest Baptist Health, Winston Salem, North Carolina, USA; [15]Morehouse School of Medicine, East Point, Georgia, USA; [16]Acupuncture and Oriental Medicine (AAAOM), Annandale, Virginia, USA [17]Florida Atlantic University, Boca Raton, Florida and Nova Southeastern University, Davie, Florida, USA; [18]Consumers United for Evidence-based Healthcare, Fredericton, New Brunswick, Canada; [19]Louisiana State University School of Medicine, New Orleans, Louisiana, USA; [20]Department of Research and Quality, American Academy of Otolaryngology—Head and Neck Surgery Foundation, Alexandria, Virginia, USA.

Corresponding Author:
Michael D. Seidman, MD, Henry Ford West Bloomfield Hospital, 6777 West Maple Rd, West Bloomfield, MI 48322, USA.
Email: mseidma l@hfhs.org