Rhinitis in the Elderly

Alan P. Baptist, MD, MPH[a,*], Sharmilee Nyenhuis, MD[b]

KEYWORDS

• Rhinitis • Allergic rhinitis • Nonallergic rhinitis • Atrophic rhinitis • Elderly
• Older adults

KEY POINTS

- Symptoms of rhinitis are common, and affect approximately 32% of older adults.
- Nonallergic and atrophic rhinitis are more common among older adults than younger populations. Determining the rhinitis subtype can help to provide the most appropriate therapy.
- Special considerations regarding treatment need to be made because comorbidities, limited income, memory loss, and side effects of medications frequently occur and may impact outcomes.

EPIDEMIOLOGY OF RHINITIS IN THE ELDERLY

Unfortunately, older adults are routinely excluded from large epidemiologic studies on rhinitis. For example, both National Health and Nutrition Examination Survey III and the European Swiss Study on Air Pollution and Lung Disease in Adults study (which each had more than 8000 participants) excluded anyone over the age of 60 when analyzing rhinitis outcomes and prevalence.[1] Allergic rhinitis (AR) seems to decrease with age, and older literature has suggested a prevalence of approximately 12%.[2] However, more recent literature suggests that this figure may underestimate significantly the current rhinitis prevalence rate.[3] Results from the National Health and Nutrition Examination Survey from 2005 and 2006 found that the self-reported prevalence of rhinitis was approximately 32% among those between the age of 54 and 89, which was no different than younger adult populations (**Fig. 1**).[4] However, in that study adults aged 54 to 89 had significantly lower rates of allergic sensitization compared with younger age groups (although approximately 33% of older adults were positive for inhalant allergen sensitivity on skin testing). Overall, it seems that non-AR (NAR) increases with age, and the highest prevalence is seen in the elderly.[5]

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[a] Division of Allergy and Clinical Immunology, University of Michigan, 24 Frank Lloyd Wright Drive, Suite H-2100, Ann Arbor, MI 48106, USA; [b] Division of Pulmonary, Critical Care, Sleep and Allergy, University of Illinois at Chicago, 840 S. Wood Street MC 719, Chicago, IL 60612, USA
* Corresponding author.
E-mail address: abaptist@med.umich.edu

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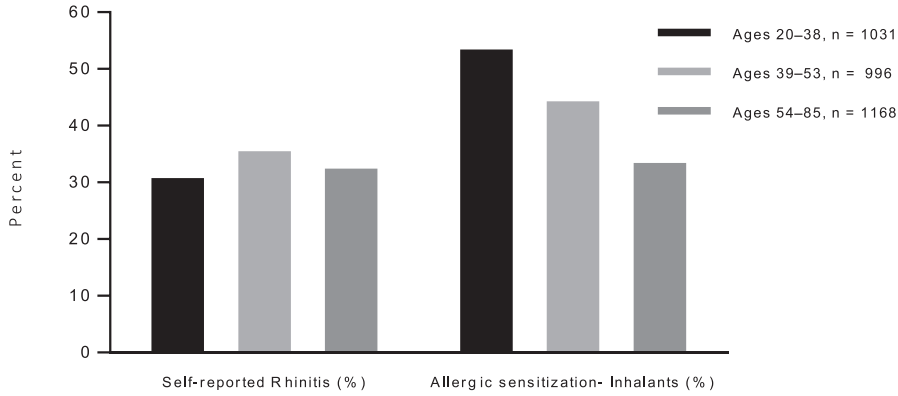

Fig. 1. Self-reported rhinitis and allergic sensitization among participants in the National Health and Nutrition Examination Survey 2005-2006 study. (*Data from* Shargorodsky J, Garcia-Esquinas E, Galán I, et al. Allergic sensitization, rhinitis and tobacco smoke exposure in US adults. PLoS One 2015;10(7):e0131957.)

TYPES OF RHINITIS IN THE ELDERLY

Allergic Rhinitis

AR is characterized by intermittent or persistent symptoms of nasal congestion, rhinorrhea, nasal/ocular pruritus, sneezing, and postnasal drainage. These symptoms are a result of immunoglobulin (Ig)E-mediated allergic inflammation in the nasal mucosa triggered by various allergens. Triggering allergens may be seasonal or perennial. The seasonal allergens include pollen and mold, and perennial allergens include dust mites, pet dander, and pests (eg, cockroaches, mice). A key component to diagnosing AR is objective evidence of allergen sensitivity. Allergy skin testing (prick and intracutaneous) or serum testing for specific IgE is used to assess allergen sensitization to environmental allergens. Allergen sensitization as well as total IgE have been shown to diminish with age.[6–8]

Recent reports have revealed a subset of rhinitis patients with a positive nasal provocation to allergens despite negative skin prick tests.[9,10] It has been hypothesized that these patients have localized AR. Further studies are needed to gain a better understanding of the immunopathology, prevalence, practical diagnostic tests, and management of localized AR, especially in older adults.

Nonallergic Rhinitis

NAR is characterized by symptoms of nasal congestion, rhinorrhea, and postnasal drainage in the absence of specific IgE-dependent events.[11] The diagnosis of NAR is based on clinical history and exclusion of other causes of rhinitis. The symptoms of NAR may be persistent, intermittent, seasonal (climatic), and/or elicited by recognized triggers. These triggers include cold air, changes in climate, strong odors, pollutants, chemicals, and exercise, to name a few. Gustatory rhinitis is a form of NAR triggered by eating, which can be a frequent complaint of older rhinitis patients.[12]

Mixed Rhinitis

NAR frequently co-occurs in 44% to 87%of patients with AR. This condition (NAR and AR) is called mixed rhinitis and has multiple triggers (eg, pollens, change in weather, strong odors).[13] The clinical presentation of mixed rhinitis can be variable and is characterized by intermittent or persistent rhinitis symptoms that are not fully explained by