The burden of rhinitis: nothing to sniff at

Background and epidemiology: It is the little things in life that, when counted, start to add up — the service charge on banking transactions, the second glass of wine with dinner, the antihistamine taken for the stuffed-up nose. With respect to the last item, expenditures for prescribed antihistamines in the United States exceed $3 billion annually. The seasonal or perennial sneezing, rhinorrhea and congestion of allergic rhinitis affect about 10%–30% of adults and 40% of children, making it the sixth most common chronic illness in the United States. Over the past 30 years the prevalence of this condition has risen dramatically in industrialized countries, with England, Sweden and Australia reporting a doubling in rates, a trend similar to that seen with other atopic conditions such as asthma.

The symptoms of allergic rhinitis can lead to headache, irritability, loss of sleep and fatigue, which interfere with cognitive tasks, impair work performance and cause work absences. According to mid-1990 estimates, the value of lost productivity to employers and society resulting from allergic rhinitis approached $3.8 billion annually in the United States.

This burdensome illness has been the subject of 2 recent systematic reviews that looked at the general diagnostic and treatment issues related to allergic rhinitis as well as some of the unique issues pertaining to the working-age population. Overall, the reviews demonstrated that most of the evidence comes from clinical trials of low methodological quality funded by pharmaceutical companies and that evidence is lacking to answer key clinical questions such as how to distinguish between allergic and nonallergic rhinitis and whether implementing standard measures to minimize exposure to indoor allergens is cost effective. Some of the main findings of these reviews are highlighted below; the full reports are available on the Agency for Healthcare Research and Quality’s Web site (www.ahrq.gov/clinic/epicxindex.htm#otolaryngology).

Clinical management: The symptoms of allergic rhinitis result from exposure to allergens in sensitized individuals. Common allergens include pollen, grass, weeds and household dust. Although some occupational exposure to airborne allergens can cause rhinitis, nonoccupational allergic rhinitis represents a vastly greater burden in workplace settings. Symptoms are triggered by interaction of the allergen with IgE, which binds to mast cells in the nasal mucosa or to circulating basophils. Recognition of the allergen by the IgE antibody leads to activation of the mast cells or basophils, which causes the release of a variety of mediators, including histamine and leukotrienes, which in turn attract inflammatory cells from the peripheral circulation. In contrast, nonallergic rhinitis is characterized by sporadic or persistent nasal symptoms that do not result from IgE-mediated immunologic events.

Diagnosis of allergic rhinitis may be based on the patient’s clinical history and supported by results of skin tests or radioallergosorbent tests to detect the presence of allergen-specific IgE in serum. Despite academic emphasis on the distinction between allergic and nonallergic rhinitis, neither of the systematic reviews found studies that sought to differentiate between the 2 on the basis of clinical symptoms, signs or the presence or absence of comorbid conditions, nor did they find studies that addressed the question of the minimum level of diagnostic testing necessary to distinguish between allergic and nonallergic rhinitis. Also, evidence on the efficacy of treatment options for nonallergic rhinitis is sparse: only 13 trials, involving a total of 450 patients, were identified between 1982 and 1999.

Options for managing allergic rhinitis include the use of 1 or more of antihistamines, nasal corticosteroids, leukotriene modifiers, anticholinergics, cromoglycate, sympathomimetics, ipratropium and, over the long-term, desensitizing immunotherapy. When considering monotherapy, the overwhelming majority of studies comparing antihistamines with intranasal corticosteroids clearly favoured the latter. Studies also provided strong support for the beneficial effects of cromoglicate, and 2 clinical trials provided some evidence that decongestants relieve nasal congestion but not other symptoms.

Combination treatment with antihistamines plus nasal glucocorticoids alleviates nasal symptoms better than antihistamines alone but not better than nasal glucocorticoids alone. When compared with antihistamines alone, combination therapy with antihistamines plus any of decongestants, ipratropium, nedocromil or an NSAID alleviates overall rhinitis symptoms in certain patients.

Prevention: Studies of air filtration systems do not show strong evidence of their effectiveness in decreasing rhinitis symptoms. A few trials in highly selected populations indicate that measures to control dust mites (use of an acaricide, use of impervious covers on mattresses, box springs and pillows, and housecleaning) may reduce symptoms. Studies of more comprehensive environmental control measures are needed, as are higher quality clinical trials, funded by nonproprietary sources, to answer outstanding key clinical questions about this burdensome chronic disease.

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References