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Management of Allergic and Nonallergic Rhinitis

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Preface

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-Based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. The reports and assessments provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

To bring the broadest range of experts into the development of evidence reports and health technology assessments, AHRQ encourages the EPCs to form partnerships and enter into collaborations with other medical and research organizations. The EPCs work with these partner organizations to ensure that the evidence reports and technology assessments they produce will become building blocks for health care quality improvement projects throughout the Nation. The reports undergo peer review prior to their release.

AHRQ expects that the EPC evidence reports and technology assessments will inform individual health plans, providers, and purchasers as well as the health care system as a whole by providing important information to help improve health care quality.

We welcome written comments on this evidence report. They may be sent to: Director, Center for Practice and Technology Assessment, Agency for Healthcare Research and Quality, 6010 Executive Blvd., Suite 300, Rockville, MD 20852.

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Structured Abstract

Objectives. This report synthesizes the available evidence on the diagnosis of allergic and nonallergic rhinitis, the question of whether differentiating allergic from nonallergic rhinitis is important, the efficacy of treatments in nonallergic and allergic rhinitis, and how treatment of allergic rhinitis impacts the development of asthma or acute rhinosinusitis.

Search Strategy. Primary research articles and meta-analyses evaluated for this report were identified through a Medline search of English language literature published between 1966 and October 2000.

Selection Criteria. We included cross-sectional and prospective studies evaluating diagnostic methods in allergic and nonallergic rhinitis. We used randomized controlled trials to evaluate the efficacy of treatments. We looked for prospective studies that evaluated the relationship between allergic rhinitis and later development of asthma or acute rhinosinusitis.

Data Collection and Analysis. We reviewed 3,354 Medline titles, retrieved 228 articles, and included 88 randomized controlled trials and two prospective cohort studies in our report. Evidence tables of study features and results were produced for various treatment comparisons. Summary tables reported appraisal of the methodological quality of the studies, and summaries of their results.

Main Results. No prospective study explicitly attempted to differentiate allergic from nonallergic rhinitis. The minimum level of testing necessary to confirm or exclude a diagnosis of allergic rhinitis has not been established in the literature.

Pharmaceutical companies supported the majority of the treatment trials. Thirteen randomized controlled trials assessed the efficacy of medications for treatment of nonallergic rhinitis symptoms. Only one study examined the role of antihistamines and three studies examined the efficacy of nasal corticosteroids. Oral decongestants are effective in controlling the symptom of nasal congestion and ipratropium bromide is beneficial in the management of rhinorrhea. There is little published evidence for use of antihistamines or nasal corticosteroids for the management of nonallergic rhinitis. Overall, these treatment modalities were well tolerated and devoid of major side effects.

There were 73 randomized controlled trials on the treatment of allergic rhinitis. The majority of studies show a clear benefit on the use of intranasal corticosteroids over either sedating or nonsedating antihistamines for relief of symptoms of nasal allergy. With respect to symptom alleviation in seasonal and perennial allergic rhinitis, study results indicate no consistent differences between sedating and nonsedating antihistamines, though the side-effect profile favors nonsedating antihistamines. No randomized controlled trials were identified that compared immunotherapy with antihistamines or with nasal corticosteroids in the treatment of seasonal and/or perennial allergic rhinitis. Studies provide strong support for the beneficial effect of cromoglycate in the management of both seasonal and perennial allergic rhinitis. A majority of studies reported no serious adverse events associated with the use of antihistamines, cromolyn, or intranasal corticosteroids.

Two prospective cohort studies demonstrate an increased likelihood of developing asthma over time in patients with allergic rhinitis, though no study was identified which addressed the

question of whether treatment of allergic rhinitis can actually prevent the development of asthma. In addition, though the link between allergic rhinitis and rhinosinusitis is known, we identified no prospective studies on the outcomes of treated and untreated allergic rhinitis.

Conclusions. Beyond skin testing and diagnosis by exclusion, there is no literature on differentiating allergic from nonallergic rhinitis. The data concerning treatment of nonallergic rhinitis is scant and no single agent is identified as being uniformly effective in controlling all the symptoms associated with this condition. In allergic rhinitis treatment, nasal corticosteroids are superior to antihistamines and there is no consistent difference between sedating antihistamines and nonsedating antihistamines for the relief of nasal symptoms. The majority of studies reported no major adverse events associated with current treatments. There is insufficient evidence to address the relationship between allergic rhinitis and the development of asthma or rhinosinusitis.

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