

TABLE IV. (Continued)

Recommendation no.	CBS or GRADE recommendation	Strength of recommendation	Certainty of evidence
27	CBS: We suggest that for patients with AR and nasal congestion uncontrolled with an oral antihistamine, the clinician consider the addition of pseudoephedrine, when tolerated. (See Recommendation 18.)	Conditional	Moderate
28	CBS: We suggest that for SAR the clinician not combine the oral LTRA montelukast with an oral antihistamine for symptoms not controlled with an oral antihistamine. (See Recommendation 7.)	Conditional	Moderate
29	GRADE: We recommend that the clinician not prescribe, as initial treatment, a combination of an oral antihistamine and an intranasal steroid in preference to monotherapy with an intranasal steroid in patients ≥ 12 y of age with symptoms of SAR.	Strong	Moderate
30	CBS: We suggest that the clinician not prescribe the combination of an oral antihistamine and an INCS in preference to monotherapy with an intranasal steroid in all patients with SAR and PAR.	Conditional	Very low
31	CBS: We suggest against the addition of the oral LTRA montelukast to an INCS for AR, due to the lack of adequate evidence of improved efficacy and concerns for serious neuropsychiatric events from montelukast. (See Recommendation 7.)	Conditional	Very low
32	CBS: We suggest that the clinician offer an INCS as a first-line therapy for NAR.	Conditional	Low
33	CBS: We suggest that the clinician offer an INAH as a first-line therapy for NAR.	Conditional	Very low
34	CBS: We suggest that AIT (subcutaneous or sublingual tablets) be offered through shared decision making to patients with moderate/severe AR who (1) are not controlled with allergen avoidance and/or pharmacotherapy or (2) choose immunotherapy as the preferred method of treatment (eg, due to the desire to avoid the adverse effects, costs, or long-term use of pharmacotherapy) and/or (3) desire the potential benefit of immunotherapy to prevent or reduce the severity of comorbid conditions, such as asthma.	Conditional	Moderate
35	CBS: We suggest that AIT (subcutaneous or sublingual tablets) be considered for patients with controlled mild/moderate asthma with coexisting AR.	Conditional	Moderate
36	CBS: We cannot make a recommendation for or against the use of acupuncture for the treatment of AR.	N/A	Very low
37	CBS: We cannot make a recommendation for or against the use of specific herbal products for the treatment of AR.	N/A	Very low

N/A, Not applicable.

*“Resistant to pharmacologic monotherapy” assumes that the patient has been compliant and taken medication for adequate duration.

component of NAR before diagnostic skin or serologic testing is 98% predictive.¹⁷⁸ While the history has greater reliability and predictive value than solely relying on the physical exam, the combination of history and physical exam is still advised (Table V).¹⁷⁹

Cough and rhinitis

Chronic cough, often defined as cough persisting for >4 weeks (children)¹⁸⁰ or >8 weeks (adults),¹⁸¹ in patients who are immunocompetent and nonsmoking is usually due to upper airway cough syndrome (UACS), formerly referred to as postnasal drip syndrome; asthma; and/or gastrointestinal reflux disease, with UACS being the most common cause.¹⁸²⁻¹⁸⁶ While the pathogenesis of chronic cough has often been attributed to some combination of upper airway inflammation, nasobronchial reflex, cold dry air stimulation, inflammatory mediators from the systemic circulation, or central and peripheral neuroplasticity, a clear pathway has not been shown experimentally.¹⁸⁷⁻¹⁸⁹

Cough as a consequence of rhinitis, especially AR, is often underappreciated, due in large part to a lack of high-level evidence. Overall, guidelines minimize or conclude that there is low-level evidence associating AR with cough without the presence of concurrent asthma.^{179,190} Cough is often considered to be a comorbidity of AR rather than viewed as a direct symptom of AR. In 1 study, rhinitis was found to be an independent risk factor for the development of cough in adults.¹⁹¹ Furthermore, in 1

large multinational observational study, 47% of patients with AR frequently reported cough as a symptom, although only 11% had cough as the main reason for seeking medical attention.¹⁹² In a prospective study, cough as a symptom increased from mild intermittent to moderate/severe persistent AR.¹⁹³ Cough sensitivity has been described to be heightened in patients with AR, both during and outside of pollen season.^{194,195} With up to 23% of patients with chronic cough having at least 2 contributing comorbidities (eg, AR with postnasal drip and gastroesophageal reflux disease), the complexity of managing chronic cough becomes magnified.¹⁹⁶

The mechanism of cough in AR has often been explained both as a rhinobronchial reflex and as part of the UACS. In nasal challenge studies of patients with AR, cough was described most frequently in patients with PAR.¹⁹⁷ Patients with persistent AR report more postnasal drip along with more cough.¹⁹⁸ The mechanisms of cough from UACS in children may differ from adults and may differ among children of different age groups. In 1 Chinese study, rhinitis was the major pathogenesis in the school-age children, whereas it was adenoid hypertrophy in a group of preschool children, indicating that mechanical obstruction may be a major cause of UACS in some children.¹⁹⁹

Frequently, cough in a patient with AR is related to concomitant asthma or nonspecific bronchial hyperreactivity, often undiagnosed. Furthermore, bronchial biopsy studies in patients with AR and without asthma have shown inflammatory cell infiltrate and active structural remodeling of the lower airways