

# Classification of Allergic Rhinitis: What is Most Suitable in Korea?

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Allergic rhinitis (AR) has traditionally been classified as perennial or seasonal, depending on the kind of allergen responsible for the symptoms<sup>1</sup>; however, this classification is not satisfactory for many reasons. Some seasonal AR (SAR) patients present with perennial symptoms due to exposure to several pollens over several months. Conversely, perennial AR (PAR) patients can present symptoms for only a few weeks per year. Furthermore, most patients have multiple sensitizations and symptoms throughout the year. Based on these findings, the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines were published in 2001.<sup>2</sup> This report was innovative especially in proposing a new AR classification using duration and severity of symptoms as criteria.

The classifications of duration and severity were based on empirical criteria that required validation. Many validation studies of the ARIA classification have been performed in both European and international studies, and these established that “intermittent” and “persistent” are not synonymous with “seasonal” and “perennial,” respectively.<sup>3-6</sup> The ARIA classification appears to be closer to the patient’s need than the traditional classification system.<sup>7</sup> After 2001, more than 251 original articles conducted in 43 countries used the ARIA classification of intermittent and persistent AR.<sup>8</sup> The ARIA 2008 update was published based on studies over 7 years, but the classification system was maintained. Currently, except for in North America, most countries use the ARIA guidelines as standard.

In Korea, the ARIA guidelines have also been considered as standard. Nevertheless, a questionnaire survey to 348 ENT doctors in 2012 showed that just 60% of clinicians use the ARIA guidelines.<sup>9</sup> This relatively low frequency of use might be because of doctors’ beliefs that traditional allergen-based classifications have some advantage. In Korea, tree pollens have seasonal peaks in the spring, grass pollens in the summer, and weed pollens in the fall.<sup>10</sup> Thus, it is a logical deduction that seasonal allergens would produce symptoms specifically during their peak pollen season.

In the present issue of *Allergy, Asthma & Immunology Research*,

Chung et al.<sup>11</sup> addressed the validation of the ARIA classification in Korea. The authors especially highlighted the seasonal specificity of seasonal allergens. The authors revealed that the subjective symptom durations are not consistent with the peak seasons of the pollens. In addition, they found that most SAR patients suffer during spring and fall, irrespective of the kind of pollen. This is very informative in daily practice because there was no study dealing with seasonal specificity of SAR patients in Korea, although the study populations were smaller (number of SAR patients = 40).

The authors<sup>11</sup> also showed a lack of association between the SAR/PAR classification and the ARIA classification. These are similar results to previous European<sup>3-6</sup> and Korean studies.<sup>12,13</sup> The authors documented that compared to the SAR/PAR classification, the ARIA classification showed a better association not only with the symptomatic score, but also with the quality of life score. These are concordant results to a previous report<sup>7</sup> and first document in Korea.

Thus, the ARIA classification could be accepted as standard depending on previous international and Korean evidence. But the question remains, is the classification of “SAR” and “PAR” really useless?

In this issue, Chung et al.<sup>11</sup> reported that 64.6% of patients with SAR had symptoms in a specific season, a higher percentage than that for patients with PAR or PAR+SAR (18.3% and 49.2%, respectively). Ciprandi et al.<sup>7</sup> reported that allergic conjunctivitis is more frequent in SAR (64.9%) than in PAR (46.4%) or PAR+SAR (47.9%). SAR patients had a significant increase in total symptom score during the pollen season, and PAR patients showed more intense symptoms during the non-pollen season.<sup>7</sup>

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AR has been classified as SAR and PAR in Japan.<sup>12</sup> Japanese doctors believe that ARIA is an incongruous classification because AR patients sensitized to cedar pollen, the most common allergen in Japan, endure allergic symptoms for at least 6-7 weeks (persistent AR) and suffer absolutely more severe symptoms during the cedar pollen season.

The updated practice parameters were developed by The American Academy of Allergy, Asthma & Immunology (AAAAI) and the American College of Allergy, Asthma, and Immunology (ACAAI) in 2008.<sup>13</sup> This American system maintained the traditional SAR and PAR classification and added PAR with “seasonal exacerbation” and episodic AR to address the weak points in the traditional PAR and SAR classification.

The British Society for Allergy and Clinical Immunology (BSACI) guidelines introduced a complementary classification in 2008.<sup>14</sup> These guidelines classified AR as intermittent or persistent based on ARIA. Each classification was further sub-classified into seasonal or perennial, because the seasonal and perennial concept is useful in UK practice, especially for diagnosis and immunotherapy.

In Korea, the ARIA classification has been validated and has showed good correlation with symptom score and quality of life. The purpose of classification, however, is to improve patient care and consequently improve patient satisfaction and compliance. In Korea, 73% of otorhinolaryngologists think the ARIA guidelines are not suitable in daily care practice although 60% follow ARIA guidelines.<sup>9</sup> In order to improve the satisfaction of patients and clinicians, a complementary Korean-specific classification is mandatory. Large epidemiological and clinical studies are necessary to define the most suitable way to classify and treat patients with AR.

## REFERENCES

1. Dykewicz MS, Fineman S. Executive summary of joint Task Force Practice Parameters on diagnosis and management of rhinitis. *Ann Allergy Asthma Immunol* 1998;81:463-8.
2. Bousquet J, Van Cauwenberge P, Khaltaev N; Aria Workshop Group; World Health Organization. Allergic rhinitis and its impact on asthma. *J Allergy Clin Immunol* 2001;108:S147-334.
3. Bauchau V, Durham SR. Prevalence and rate of diagnosis of allergic rhinitis in Europe. *Eur Respir J* 2004;24:758-64.
4. Van Hoecke H, Vastesaeger N, Dewulf L, Sys L, van Cauwenberge P. Classification and management of allergic rhinitis patients in general practice during pollen season. *Allergy* 2006;61:705-11.
5. Bachert C, van Cauwenberge P, Olbrecht J, van Schoor J. Prevalence, classification and perception of allergic and nonallergic rhinitis in Belgium. *Allergy* 2006;61:693-8.
6. Bousquet J, Annesi-Maesano I, Carat F, Léger D, Rugina M, Pribil C, El Hasnaoui A, Chanal I. Characteristics of intermittent and persistent allergic rhinitis: DREAMS study group. *Clin Exp Allergy* 2005;35:728-32.
7. Ciprandi G, Cirillo I, Vizzaccaro A, Tosca M, Passalacqua G, Palleschini E, Canonica GW. Seasonal and perennial allergic rhinitis: is this classification adherent to real life? *Allergy* 2005;60:882-7.
8. Bousquet J, Schünemann HJ, Samolinski B, Demoly P, Baena-Cagnani CE, Bachert C, Bonini S, Boulet LP, Bousquet PJ, Brozek JL, Canonica GW, Casale TB, Cruz AA, Fokkens WJ, Fonseca JA, van Wijk RG, Grouse L, Haahtela T, Khaltaev N, Kuna P, Lockey RE, Lodrup Carlsen KC, Mullol J, Naclerio R, O’Hehir RE, Ohta K, Palkonen S, Papadopoulos NG, Passalacqua G, Pawankar R, Price D, Ryan D, Simons FE, Togias A, Williams D, Yorgancioglu A, Yusuf OM, Aberer W, Adachi M, Agache I, Ait-Khaled N, Akdis CA, Andrianarisoa A, Annesi-Maesano I, Ansotegui IJ, Baiardini I, Bateman ED, Bedbrook A, Beghé B, Beji M, Bel EH, Ben Kheder A, Bennoor KS, Bergmann KC, Berrissoul F, Bieber T, Bindslev Jensen C, Blaiss MS, Boner AL, Bouchard J, Braido F, Brightling CE, Bush A, Caballero F, Calderon MA, Calvo MA, Camargos PA, Caraballo LR, Carlsen KH, Carr W, Cepeda AM, Cesario A, Chavannes NH, Chen YZ, Chiriac AM, Chivato Pérez T, Chkhartishvili E, Ciprandi G, Costa DJ, Cox L, Custovic A, Dahl R, Darsow U, De Blay F, Deleanu D, Denburg JA, Devillier P, Didi T, Dokic D, Dolen WK, Douaoui H, Dubakiene R, Durham SR, Dykewicz MS, El-Gamal Y, El-Meziane A, Emuzyte R, Fiocchi A, Fletcher M, Fukuda T, Gamkrelidze A, Gereda JE, González Diaz S, Gotua M, Guzmán MA, Hellings PW, Hellquist-Dahl B, Horak F, Hourihane JO, Howarth P, Humbert M, Ivancevich JC, Jackson C, Just J, Kalayci O, Kaliner MA, Kalyoncu AF, Keil T, Keith PK, Khayat G, Kim YY, Koffi N’goran B, Koppelman GH, Kowalski ML, Kull I, Kvedariene V, Larenas-Linnemann D, Le LT, Lemièrre C, Li J, Lieberman P, Lipworth B, Mahboub B, Makela MJ, Martin F, Marshall GD, Martinez FD, Masjedi MR, Maurer M, Mavale-Manuel S, Mazon A, Melen E, Meltzer EO, Mendez NH, Merk H, Mihaltan F, Mohammad Y, Morais-Almeida M, Muraro A, Nafti S, Namazova-Baranova L, Nekam K, Neou A, Niggemann B, Nizankowska-Mogilnicka E, Nyembue TD, Okamoto Y, Okubo K, Orru MP, Ouedraogo S, Ozdemir C, Panzner P, Pali-Schöll I, Park HS, Pigearias B, Pohl W, Popov TA, Postma DS, Potter P, Rabe KF, Ratomaharo J, Reitamo S, Ring J, Roberts R, Rogala B, Romano A, Roman Rodriguez M, Rosado-Pinto J, Rosenwasser L, Rottem M, Sanchez-Borges M, Scadding GK, Schmid-Grendelmeier P, Sheikh A, Sisul JC, Solé D, Sooronbaev T, Spicak V, Spranger O, Stein RT, Stoloff SW, Sunyer J, Szczeklik A, Todo-Bom A, Toskala E, Tremblay Y, Valenta R, Valero AL, Valeyre D, Valiulis A, Valovirta E, Van Cauwenberge P, Vandenplas O, van Weel C, Vichyanond P, Viegi G, Wang DY, Wickman M, Wöhrl S, Wright J, Yawn BP, Yiallourous PK, Zar HJ, Zernotti ME, Zhong N, Zidam M, Zuberbier T; World Health Organization Collaborating Center for Asthma and Rhinitis. Allergic Rhinitis and its Impact on Asthma (ARIA): achievements in 10 years and future needs. *J Allergy Clin Immunol* 2012;130:1049-62.
9. Korean Rhinologic Society. Guidelines for allergic rhinitis. Seoul: Korean Rhinologic Society; 2012.
10. Park HS, Chung DH, Joo YJ. Survey of airborne pollens in Seoul, Korea. *J Korean Med Sci* 1994;9:42-6.
11. Chung YJ, Cho IK, Lee KI, Bae SH, Lee JW, Chung PS, Mo JH. Seasonal specificity of seasonal allergens and validation of the ARIA classification in Korea. *Allergy Asthma Immunol Res* 2013;5:75-80.
12. Fujieda S, Kurono Y, Okubo K, Ichimura K, Enomoto T, Kawachi H, Masuyama K, Goto M, Suzuki H, Okamoto Y, Takenaka H. Examination, diagnosis and classification for Japanese allergic rhinitis: Japanese guideline. *Auris Nasus Larynx* 2012;39:553-6.
13. Wallace DV, Dykewicz MS, Bernstein DI, Blessing-Moore J, Cox L, Khan DA, Lang DM, Nicklas RA, Oppenheimer J, Portnoy JM, Randolph CC, Schuller D, Spector SL, Tilles SA; Joint Task Force on

- Practice; American Academy of Allergy; Asthma & Immunology; American College of Allergy; Asthma and Immunology; Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of rhinitis: an updated practice parameter. *J Allergy Clin Immunol* 2008;122:S1-84.
14. Scadding GK, Durham SR, Mirakian R, Jones NS, Leech SC, Farreroque S, Ryan D, Walker SM, Clark AT, Dixon TA, Jolles SR, Siddique N, Cullinan P, Howarth PH, Nasser SM; British Society for Allergy and Clinical Immunology. BSACI guidelines for the management of allergic and non-allergic rhinitis. *Clin Exp Allergy* 2008;38:19-42.