Clinical Aspects of *Alternaria Alternata* Sensitization in Patients with Allergic Rhinitis

Sun A Choi*, Seung Youp Shin, Kun Hee Lee, Sung Wan Kim, Joong Saeng Cho
Department of ORL–HNS, School of Medicine
Kyung Hee University, Seoul, Korea

**Introduction**

Atopic sensitization to the mould *Alternaria alternata* (AA) has been associated with rhinitis and asthma. Fungal allergen exposure is associated with the development and severity of asthma in sensitized individuals. The contribution of indoor fungal allergen exposure to allergic diseases is still not completely clear. The aims of our study were to explore the association of AA sensitization to other allergic diseases, to study the influence to rhinoconjunctivitis symptom severity.

**Materials and Methods**

Between June 2011 and April 2012, 2207 patients who were diagnosed of allergic rhinitis in department of ORL-HNS in Kyung Hee medical center were enrolled to our study. Among them, sensitization to AA were classified to group A according to allergic skin test and, and sensitization to other allergen were classified to Group B. We evaluated the prevalence of other allergic disease, symptom severity by using TNSS score. Data were analyzed by using SPSS 18.0 (Chicago, Ill) with the Mann-Whitney U test for comparison between the groups.

**Results**

Group A were 73 patients (6.4%) and, and Group B were 1053 patients (93.6%). In Group A, 10 patients had asthma (13.7%), 16 patients had atopy (21.9%), 24 patients had allergic conjunctivitis (32.9%), 11 patients had sinusitis (15%). In Group B, 21 patients had asthma (6.8%), 45 patients had atopy (14.5%), 98 patients had allergic conjunctivitis (31.6%), 46 patients had sinusitis (14.8%). Group A is higher prevalent than group B, but there is no significant difference. (p>0.05)(Fig 1,2)

Also, in Group A, patients with 2 more comorbidity was 6 (8.2%), but in Group B, patients with 2 more comorbidity was 9 (2.9%). Group A was higher prevalent than Group B, but there was no significant difference. (Fig 3)

Especially, in Group A, under 14 years of age children (35 patients), 6 patients had asthma (17.1%), 10 patients had atopic dermatitis (28.6%), 13 patients had allergic conjunctivitis (37.1%), 5 patients had sinusitis (14.2%), 5 patients had asthma, allergic rhinitis and atopic dermatitis (14.3%). In Group B, under 14 years of age children (105 patients), 16 patients had asthma (15.2%), 26 patients had atopic dermatitis (24.8%), 36 patients had allergic conjunctivitis (35.2%), 16 patients had sinusitis (15.2%), 8 patients had asthma, allergic rhinitis and atopic dermatitis (7.6%). It is higher prevalent than over 14 years of age. (p>0.05)

Using TNSS score, we compared the symptom severity of allergic rhinitis between Group A and Group B. In Group A, TNSS score average was rhinorrhea 1.7, nasal obstruction 2.5, itching sensation 0.8, sneezing 1.5, total score 6.5. In Group B, TNSS score average was rhinorrhea 1.8, nasal obstruction 2.0, itching sensation 1.0, sneezing 1.3, total score 6.1. Accordingly, the symptom of Group A patients was more severe than Group B. (p>0.05)(Table 1)

**Conclusion**

Patients with AA-sensitization allergic rhinitis may have other atopic conditions such as asthma or atopic dermatitis. Especially under 14 years of age, it is was much higher.

Also, AA-sensitized individuals have more severe allergic symptom than non AA-sensitized patients. However, it is unclear that AA allergen is related to symptom severity. Because AA-sensitized patients was polysensitized.