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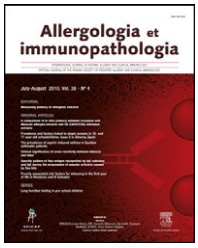

EDITORIAL

Is there a role for measurement of nasal IgE antibodies in diagnosis of *Alternaria*-induced rhinitis in children?

Allergic rhinitis is defined as a type I hypersensitivity reaction in the nasal mucosa and its symptoms include sneezing, itching, rhinorrhoea and nasal obstruction. It occurs via an IgE-mediated Th2 cytokine pattern as a result of exposure to an inhalant allergen.[1]

Allergic rhinitis can be subdivided into seasonal (intermittent) and perennial (persistent), the latter presenting with symptoms throughout the year. Common perennial allergens include Der p1, animal proteins and fungal spores. One of the commonest fungal allergens is *Alternaria alternata*. Diagnosing an allergy to fungal spores can be difficult, as exposure to it is not readily ascertained in the history.

Diagnosing allergic rhinitis involves taking a history; examination and investigations include skin prick testing (SPT), serum IgE titres, nasal provocation testing (NPT) and IgE in nasal secretions. The diagnosis is based on the presence of rhinitic symptoms in the light of objective tests as on their own these tests can give a false positive result. One example is that 15% of an asymptomatic population will have positive SPTs. Nevertheless, skin prick testing remains the most sensitive test.[2,3]

In the current issue of *Allergologia et Immunopathologia*, Fuiano et al. found that in 56 children with suspected allergic rhinitis in a period when *Alternaria* was present in the air, 20 (37.5%) had a positive skin prick test to *Alternaria* whilst 45 (80.3%) had IgE to *Alternaria* in their nasal secretions.[4]

These findings further re-enforce the concept of local allergy[5] which dates back to Huggins and Brostoff.[6] Local mucosal allergy has been found in the absence of systemic atopy and has been termed ''entopy''.[5] There have been several clinical and in vitro studies showing that IgE is produced locally in the rhinitic mucosa (and bronchial mucosa of asthmatic patients) and its presence is not simply the result of migration from elsewhere in the body.[7–14] Fuiano et al. provide further evidence supporting the existence of local allergy and entopy. However, the practical role for the measurement of local IgE in the nasal secretions of children with rhinitis remains limited. This is because despite being able to find evidence of nasal IgE to *Alternaria*, this has little effect on clinical practice. There are various reasons why this is the case.

Perennial allergic rhinitis should be considered along with other common causes of nasal symptoms in children such as the frequency of upper respiratory tract infections in whom prolonged post-infective mucosal hypertrophy and secretions occur for many days in some children and adenoid hypertrophy. These factors often confound making a diagnosis for nasal symptoms in children less than seven years as well as reducing the efficacy of treatment (an age after which the adenoid has normally shrunk and immunity improved to reduce the number of upper respiratory tract infections). The management of allergic rhinitis centres on the use of non-sedative antihistamines for the symptoms of sneezing, itchy eyes and rhinorrhoea. Compliance in the use of topical nasal steroids primarily helps nasal obstruction but it may also reduce the other symptoms. Unfortunately compliance in children, particularly in those younger than six years, is very poor. There has been some concern that the regular use of topical steroids in children may inhibit growth by interfering with the hypothalamic-pituitary-adrenal axis although proof to support this is weak, especially with the bioavailability of the recent generation of topical steroids. Over six years old a trial of medical treatment with a topical nasal steroid and non-sedative antihistamine for six weeks can be given and a response helps to confirm a probable diagnosis of allergic rhinitis. The evidence supporting the clinical efficacy and safety of immunotherapy for children singularly allergic to *Alternaria* is limited.[15–17] Only one study from the 1980s treating rhinitis alone with immunotherapy showed any benefit.[15] A double-blind randomised controlled trial concluded that immunotherapy led to a significant improvement in the peak expiratory flow rate of asthmatic children in all phases compared to placebo.[17] One double-blind randomised controlled trial assessing the role of sublingual immunotherapy in the treatment of paediatric *Alternaria*-rhinitis showed a reduction in symptoms and drug intake scores compared to placebo but the subjects were mixed with only ten having rhinitis and two having a mono-sensitivity to *Alternaria*, thus limiting the conclusions that can be derived regarding the effectiveness of immunotherapy in the treatment of *Alternaria*-rhinitis.[18]

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Isolated allergy to *Alternaria* spores is uncommon therefore limiting the potential of avoidance measures or immunotherapy and the role of measuring nasal IgE. It has been shown that of patients sensitive to *Alternaria*, only 2% are monosensitised.[19]

In conclusion, this study provides further evidence for the concept of local allergy and ''entopy'' in the nasal mucosa. The ability to measure nasal IgE to *Alternaria* in the nasal mucosa and to identify patients who are sensitive to this allergen, even in those who are skin prick and serum IgE negative, adds to the diagnostic armamentarium. However, the clinical value of measuring nasal IgE remains limited as this does not result in a significant alteration in patient management.

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