

SYNOPSIS

- Adverse immunological response to food – food allergy – is associated with numerous symptoms (e.g. skin reactions, asthma and anaphylaxis). Broadly, food allergy can be classified as IgE-mediated or non-IgE-mediated.
- In the European Community Respiratory Health Survey, 12% of respondents reported food allergy, but oral food challenge studies show lower incidences than ‘self-report’ studies.
- Food allergy is one of the first manifestations of the ‘atopic march’.
- Skin prick tests and *in vitro* IgE antibody tests are invaluable aids in the diagnosis of food allergy.
- Oral food challenges can be used to confirm results from skin / *in vitro* tests and where foods are suspected despite negative skin / *in vitro* tests.

Citation: Sicherer SH. Food allergy. *Lancet* 2002; **360**: 701–10.

SYNOPSIS

- Sensitivity to different birch pollen antigens (Bet v 1, Bet v 2 and Bet v 4) was profiled in 242 birch-sensitive patients with seasonal rhinoconjunctivitis and/or asthma, from six European countries.
- IgE to specific birch pollens and natural birch extract was analysed using the Pharmacia CAP System™ and immunoblotting.
- At least 98% of Finnish, Swedish and Austrian patients were sensitive to Bet v 1, as were 90% of French patients, 65% of Swiss patients and 62% of Italian patients. Sensitivity to Bet v 2 ranged from 2% in Finland to 43% in Switzerland, but few patients were sensitive to Bet v 4 (except in Italy).
- Results from immunoblotting correlated well with those from the Pharmacia CAP System™.
- The heterogeneity of sensitization to different allergens will have an impact on allergen-specific prevention and therapy strategies.

Citation: Movérare R et al. Different IgE reactivity profiles in birch-pollen sensitive patients from six European populations revealed by recombinant allergens: an imprint of local sensitization. *Int Arch Allergy Immunol* 2002; **128**: 325–35.

SYNOPSIS

- Allergic rhinitis and allergic asthma may be manifestations of the same disease entity, patients with less severe disease expressing rhinitis alone and those with more severe disease expressing both rhinitis and asthma.
- In total, 734 individuals were examined on two occasions 8 years apart. Serum samples were analysed for IgE antibodies specific to birch, grass, mugwort, dog, cat and dust mite.
- All patients with allergic asthma to pollen ($n = 52$) had allergic rhinitis to pollen.
- Of 28 new incident cases of allergic asthma to pollen, all either had allergic rhinitis to pollen at baseline or developed it during the 8-year follow-up period.
- Similar overlaps between allergic rhinitis and asthma were observed in patients with allergy to dust mites, cats or dogs.

Citation: Linneberg A et al. The link between allergic rhinitis and allergic asthma: a prospective population-based study. *The Copenhagen Allergy Study. Allergy* 2002; **57**: 1048–52.

IgE antibody testing is an important component of food allergy diagnosis

This paper represents a thorough review of food allergy with sections covering symptoms, epidemiology, pathophysiology, diagnosis, natural history and prevention. Clearly the section on diagnosis is of most interest and it includes a useful diagnostic algorithm, the first stage of which is to identify the most likely mechanism of the allergic disorder. With the exception of intolerance and non-immune disorders, testing for specific IgE antibody is the next step. Although Sicherer states that skin prick tests are more sensitive than blood tests, he does suggest that *in vitro* tests are more appropriate in primary care and that elevated IgE antibody levels are associated with a high likelihood of symptoms (illustrated by studies using the Pharmacia CAP system™). The possibility of future improvements to skin testing and *in vitro* tests is highlighted.

Component-resolved diagnostics should aid allergy treatment

These authors have shown that patterns of sensitization to individual birch allergens vary substantially according to geography, probably as a result of differing exposure to pollens and climate. Sensitivity to natural birch pollen extract was most frequently associated with reactivity to Bet v 1, but was also observed in those with isolated sensitization to Bet v 2 or Bet v 4. Some patients may have cross-reactive IgE antibodies to birch pollen allergens as a result of sensitivity to homologous plant species. Component resolved diagnostics are likely to improve treatment of allergy, and can be achieved with the aid of recombinant allergen tests, such as those offered by Pharmacia Diagnostics. Here, three recombinant allergen tests identified 99% of birch-sensitive patients.

Are allergic rhinitis and allergic asthma manifestations of the same disease?

This paper supports the allergy march theory, but also demonstrates a closer link between asthma and rhinitis. Patients with allergic rhinitis either had more serious respiratory allergic disease (i.e. asthma) or were at high risk of developing it (particularly if sensitized to dust mite, cats or dogs). So, allergic rhinitis and allergic asthma may, in fact, be manifestations of the same disease. The presence of airway symptoms and IgE antibodies specific to inhaled allergens was used to diagnose allergy in this study. Clearly, IgE antibody tests are of use for identifying patients sensitized to aeroallergens, thus aiding allergen avoidance and possibly slowing disease progression. Appropriate pharmacological treatment of rhinitis may also improve asthma symptoms.