

CLINICAL ASPECTS OF ALLERGY AND ASTHMA THE SECOND CHARLES BLACKLEY SYMPOSIUM

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By

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The second Charles Blackley symposium, like the first in 1973, was held at the University of Nottingham. The 200 participants were mostly from England. The main topic of the 78 lectures was atopic allergic diseases, their prevalence, prevention, diagnosis and treatment.

Atopic Allergic Diseases

It is well known that atopic dermatitis patients, during periods of pronounced activity of the disease, have increased serum IgE and defective T-lymphocyte function. Brostoff and co-workers demonstrated serum IgA to be significantly lower in these patients than in normal subjects with negative skin tests. Some support is thereby given to the hypothesis that a defective IgA response is of importance for the pathogenesis of allergic diseases. The same investigators also found that we cannot, as previously thought, merely assume that patients with atopic dermatitis, asthma and hay fever belong to one large homogeneous group with a general disposition to allergic diseases. There is evidence that certain gene combinations can give a higher predisposition to one type of allergic disease than to another. In genetic investigations the single disease, or combination of diseases, must therefore be considered as units. While no increased frequency of certain HL-A types was found in the group of allergic patients as a whole, as many as 40 per cent, who had both atopic dermatitis and hay fever, had one particular HL-A haplotype (A1:B8).

The problem regarding latent allergy versus clinical allergy, with manifestations in different organs, was elegantly elucidated by Bryant

and co-workers from the Cardiothoracic Institute of London. Three groups of patients were selected, each group having the same average amount of serum IgE antibody against house dust mite. Group 1 had positive skin test only and no symptoms, group 2 had rhinitis, and group 3 asthma. All patients were bronchial-challenged with increasing allergen doses and with histamine. Using sufficiently sensitive measuring methods it was possible to demonstrate bronchial constriction in all three groups, although somewhat weakly in group 1. The increased reactivity from group 1 to group 3 was more pronounced for histamine than for allergic challenge. This indicates that a clearly positive skin test should not be considered as unimportant because the provocation test was negative. If the hyperactivity of the mucous membrane increases, e.g. during an infection, the latent allergy may be rendered clinically manifest, either temporarily or permanently.

Prevalence

In three large epidemiological investigations of children in Birmingham, Morrison Smith demonstrated a significant increase in the prevalence of asthma during the last 20 years (1956, 1.8 per cent; 1968, 2.3 per cent; 1974, 2.6 per cent). Furthermore, the same author showed that asthma is 10 times more prevalent in children born in England of West Indian parents than in children born in the West Indies who later immigrated to England. Possible causes were discussed: breast-feeding is more prevalent in the West Indies whereas bottle-feeding with cow-milk is more usual in England, and furthermore, the potent allergens, house dust mites, are very prevalent in England.

In a large study, planned by the Society for British Clinical Allergy and Immunology, it was assessed how many of the regular laboratory personnel developed an allergy to the small animals used for experiments. This was the case in as many as 104 out of 474 (22 per cent). Especially the animals' urine is a source of potent allergens. Therefore, the risk of sensitization can undoubtedly be reduced if the cages are arranged in such a way that the urine is not mixed with very dusty material. The allergy develops in most cases after 1–2 years contact with the animals, apparently with the same frequency in individuals irrespective of whether they have a family predisposition to atopic allergy or not.

Prevention

That prevention of allergic diseases is possible was demonstrated by Soothill in the preliminary results of a controlled investigation. Newborns, predisposed to allergic diseases, were divided into two groups. The first group was not subjected to any kind of restriction, while the second group was put on an "anti-allergic" regimen. The children were given only breast milk without any addition for 3 months, pets were prohibited in the home and the number of house dust mites in the bedroom was limited as far as possible. While 10 out of 27 untreated children developed allergic diseases, this was the case in only two out of 26 in the group subjected to the "anti-allergic" regimen ($P < 0.05$).

Diagnosis

Prick tests are used with increasing frequency for the diagnosis of allergic diseases, one of the reasons being that they are considered to have a high degree of reproducibility. However, it turns out that the size of the weal reaction is proportional to the depth of the prick in the skin (Morrow Brown). The use of a needle which can always give a prick of the same depth is therefore desirable.

Wraith showed that allergic individuals quite often had positive skin reactions to mite species which do not cross-react with the house dust mite (*Dermatophagoides pteronyssinus*). It is therefore possible that mite allergy plays a larger role than our present diagnostic facilities seem to indicate.

When food allergy was suspected, Kennedy put the patients on an elimination diet, consisting of amino-acids and sugar ("astronaut-diet") for some few weeks. When the patient's condition had become stabilized, it was followed up by controlled ingestion of suspected foods. The procedure is rational and time-saving, but the diet is quite expensive.

The same procedure can be used when testing for intolerance of acetylsalicylic acid, dyes and preservatives. Such an intolerance was found in 20-25 per cent of patients with severe asthma. These figures from Finland (Stenius) confirm previous reports from Sweden. On the basis of these investigations, commendable alterations are being made to the Swedish laws regarding the addition of dyes and preservatives to foods.

Far from all acetylsalicylic acid-intolerant patients are aware of the fact that they do not tolerate the drug. A long series of analgesics and

anti-inflammatory drugs, especially indomethacin, may also aggravate the symptoms in these patients. When asthma patients need a pain-reliever paracetamol can be used with a minimal risk for intolerance reactions.

Treatment

There were no reports on any new essential drugs. Some survey lectures emphasized that beclomethasone dipropionate (Becotide®) had been used in the treatment of allergic airways diseases for nearly 5½ years without any other side effect than occasional candidiasis in the throat.

In a blind study McAllen & Assem found that hyposensitization treatment with mite extract, lasting for 18 months, had a beneficial effect on the patients' asthma symptoms. A control 3–5 years later showed that bronchial sensitivity to the allergen was still reduced. The authors had not found any immunological test which could be useful for predicting which patients would benefit from a hyposensitization.

Lessof from Guy's Hospital proved unequivocally that blocking IgG antibodies, which are formed after injections of allergen, can ameliorate the allergic symptoms. Infusion of serum from bee-keepers gave bee-allergic patients partial protection against the anaphylactic reactions caused by injection of bee-venom. It was proved that the active serum fraction was IgG antibody.

These two meetings have been so successful that a future meeting seems almost inevitable. The Charles Blackley symposiums can be warmly recommended to all who are interested in the clinical as well as the theoretical aspects of allergic diseases.

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