

EDITORIAL

ALLERGY: PREVENTION AND ITS PROBLEMS. THE FOURTH PREVENTION

Numerous epidemiological studies published in the last few years have demonstrated the increased incidence of allergic diseases, a fact that cannot be questioned in view of these studies. The causes of this increase remain to be elucidated and several possibilities are under investigation. An atopic predisposition, which is genetically transmitted, is an essential condition in most hypersensitivity reactions but the rise in allergic disease is unlikely to be caused by genetic mutations, current waves of migration or specific ethnic characteristics. On the contrary, various exogenous factors, mainly environmental and nutritional, are considered to underlie the above-mentioned increase. Another cause lies in an imbalance in the ratio of Th1/Th2 cells in favor of the latter. This imbalance is possibly a result of the decrease in infectious diseases, especially in developed countries, due to better conditions of hygiene and the increase in the vaccinated population, with a greater variety of vaccines (1).

Preventive measures need to be developed because of the greater number of allergic individuals. Among the probable causes mentioned above, no action can be taken on genetic predisposition nor is it advisable to intervene in the benefits of hygiene or vaccination (2). The only way forward is to try to improve the environment and dietary habits, especially in the at-risk population (3, 4).

Many studies have been developed to evaluate the effectiveness of preventive measures. The aim of these studies is, on the one hand, to prevent food sensitization, especially to cow's milk, and on the other, to prevent allergy to household inhalant allergens, the most common being mites and animal epithelia (5, 6). While these measures are of some use, the results of these studies have not always been positive or conclusive (7-10). In addition, even well-designed and performed studies usually run into difficulties while being carried out, despite being performed in supposedly at-risk populations, defined as the existence of close relatives suffering from allergic disease. More than a few subjects withdraw from studies because of the uncertainty of the results and the difficulty of complying with specific dietary or environmental restrictions such as avoiding tobacco smoke or doing without pets. For these reasons, prevention that is not controlled in programmed studies, that is, the prevention recommended in daily clinical practice, yields even more uncertain results, beginning with the highly probable transgression of the recommended measures. To emphasize the possible transgression of recommendations, remember that even when allergic disease is already

established, failure to comply with long-term therapeutic regimens, which are the norm in asthmatics, is highly frequent (and worrying) and is probably be even more common when the aim is to prevent a disease from which individuals are not yet suffering.

So-called primary prevention, which aims to prevent the development of allergic disease in the at-risk population, may be more difficult for families to accept (feeding with hypoallergenic formulas when breast feeding is impossible, reduction of contaminants – tobacco – and inhalant allergens) except when the parents or siblings of the child in question are suffering from a severe form of allergic disease. Secondary prevention aims to prevent the progression of allergic disease, which occurs in most children with atopic dermatitis who later develop asthma or when rhinitis is a precursor of asthma. Usually, in both phases of the development of allergic disease, environmental or dietary measures merely delay the development of the disease, although this itself is an advantage (11).

The concept of tertiary prevention is difficult to accept, since it really consists of the appropriate treatment of the disease, stressing, as in the latest edition of the GINA (12), the reduction of allergens and contaminants, both in the home and in the environment, or foods to which patients are sensitized and those which can produce a cross-reaction to them. Nevertheless, however effective the adopted measures are, the most that can be achieved is the temporary reduction of household allergens, while living with environmental allergens, pollens or fungi, is unavoidable. Therefore, the idea that the simple reduction of allergens is enough to achieve the desired improvement is a utopia.

In contrast with the relative effectiveness of reducing household allergens (although this is not something that should be dispensed with) immunotherapy can achieve marked results both in the progression phase of allergic disease (secondary prevention) and when respiratory disease is already established (tertiary prevention) (3, 4), because it not only prevents the development of asthma in patients with rhinoconjunctivitis (13, 14), but also sensitization to other allergens (15). The risk of further sensitization is greater in patients who have not undergone immunotherapy, hence the advisability of the early diagnosis and instauration of specific treatment. For this reason, the criterion of recommending immunotherapy only when environmental measures or drug treatment have proven ineffective is questionable, given that immunotherapy achieves the additional benefits mentioned above (12, 16).

In studies of prevention and of the procedures designed to reduce the risk of allergic disease, some of which have already been cited, no mention is made of what could be called fourth prevention.

When approaching adolescence, a high percentage of asthmatic children show marked improvement and most find themselves symptom-free (17). Whether this phenomenon

is due to what has come to be known as the "natural history" of asthma is debatable since early diagnosis of this disease, appropriate treatment and periodic check-ups probably play a significant role in its favorable outcome (18, 19). However, the persistence of predisposing factors and bronchial hyperresponsiveness in some patients should not be forgotten, as relapses remain a risk unless effective preventive measures are taken. This is what could be called fourth prevention.

Thus, fourth prevention consists of the measures that should be adopted to prevent relapses of allergic disease after the patient has remained symptom-free for a long time. Those who benefit most are teenagers, who should be made aware of the importance of not smoking and of avoiding smoke-filled environments such as discotheques. Lung function should be periodically checked (at least once a year) and immediate action should be taken if respiratory symptoms, however mild, reappear. Contact with irritants, common when individuals are engaged in household tasks or certain handicrafts, should be avoided. Of great importance is career choice and work that does not require regular contact with irritants or potential allergens should be recommended. A list of these professions and their known relationship with occupational respiratory disease should be made available.

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