EDITORIAL

PREVENTION AND COMPLIANCE PROBLEMS

The increased incidence of allergic diseases, especially asthma, is a well demonstrated, although controversial phenomenon[1]. The wide statistical differences among countries and even within the same country are notable and are often due to climactic, environmental, or socioeconomic factors[2-4]. Another possibility is that the diagnosis of asthma is based on distinct criteria, sometimes including processes with similar symptoms (shortness of breath, wheezing) but with distinct etiopathogenesis and progression, although in some cases the therapeutic measures may be fairly similar.

Whatever the case, many of the causes of allergic diseases are unknown, while others are still under investigation. In addition to an atopic predisposition, the environment is undoubtedly a determining factor in most patients and especially in respiratory disease. Asthma has become a public health problem with social, occupational and economic repercussions. As pointed out by Reha Cengizlier et al in the present issue of Allergologia et Immunopathologia*, its risk factors can be evaluated[5]. Hence the need to establish measures designed to prevent the disease or at least to minimize its severity. Prevention should involve the parents, when the aim is to prevent the onset or progression of these diseases in children, the patients themselves, industry and commercial employers (prevention of occupational allergic disease), the health authorities, and the government.*

Prevention, in any of its phases (primary, secondary, tertiary and what can be called fourth, or pre-occupational, prevention[6]) is based firstly on environmental measures inside and outside the home. Reducing external contaminants depends to a large extent on measures that fall under the jurisdiction of local or state governments, some of these measures being more difficult and slower to implement than others. However, in addition to environmental measures, the onset of allergic disease depends on other elements, some of which have been demonstrated while others are still under investigation. Most of these elements can be influenced by affected individuals or families.

In primary prevention, doubts remain about the role of some factors in preventing or causing the onset of allergic diseases before birth or in the first few months of life in at-risk infants. Such is the case of what is known as the hygiene hypothesis and the intake of omega-3 fatty acids. The role of these factors is still being debated, although the protective effect of both measures seems to be well established, as is that of breast-feeding in delaying the onset of allergic disease[7-9].

Preventive measures are not always easy to apply, even though the factors that encourage the development of allergic disease have been clearly established by numerous studies. The degree of compliance with preventive measures, whether by families or individuals, largely depends on the incidence of allergic disease within the family, on family members' awareness of their responsibility in the onset or progression of the disease in their children, and on the information received by patients themselves concerning the risks of disease progression, especially that of asthma, posed by the family and occupational environment and by smoking[10,11]. On other occasions failure to comply with the treatment prescribed can be due to carelessness, fear of prolonged medication, or lack of information on what it is hoped will be achieved with each drug. Faulty use of inhalers or incorrect application of immunotherapy, when these treatments are prescribed, are frequent reasons for an unfavorable clinical course, which can sometimes be hard for the physician to understand since patients often hide poor compliance[12].

Adequate prevention is not always achieved in the family environment; measures include avoiding smoking in pregnancy or secondhand smoke in the home, not having family pets, eliminating or reducing items that can accumulate dust, and taking extra care with cleanliness. When other members of the family are affected, especially children, the severity of the process and socioeconomic status are determining factors that encourage the adoption of strict preventive measures in the home. In patients themselves, determining factors are the severity of the process or the social or occupational difficulties caused by the disease, as well as patients' degree of awareness and acceptance of their ability to reduce risks. The role played by health professionals involves informing patients and their families of the effectiveness of preventive measures, of the need for strict compliance with prescribed drugs, and on the correct use of inhalers.

In conclusion, to reduce the incidence of allergic diseases, studies designed to identify their environmental causes and the preventive measures with demonstrated effectiveness in controlled studies are insufficient to achieve the desired results[13]. Intervention in the at-risk population is required. Such interventions would aim to make this population understand its responsibility in the onset of allergic diseases in children and in their progression in children and adults, the effectiveness of preventive measures, and the need for strict compliance with the prescribed treatments. Explanation of the aims of each treatment may even be required to increase patients' awareness[14].

F. Muñoz-López

REFERENCES

1. Varner AE. The increase in allergic respiratory diseases. Chest. 2002;121:1308-16.
2. Sunyer J, Jarvis D, Pekkanen J, Chinn S, Janson C, Leynaert B, et al. Geographic variations in the effect of atopy on asthma in the European Community Respiratory Health Study. J Allergy Clin Immunol. 2004; 114:1033-9.
3. ISAAC Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjuntivitis and atopic eczema. Lancet. 1998;351:1225-32.
4. Nicolaou N, Siddique N, Custovic A. Allergic disease in urban and rural populations: increasing prevalence with increasing urbanization. Allergy. 2005;60:1357-60.
5. Reha Cengizlier M, Dibek E. Evaluation of risk factors in patients diagnosed as bronchial asthma. Allergol et Immunopathol. 2006;34:4-9.
6. Muñoz-López F. Allergy: prevention and its problems. The fourth prevention. Allergol et Immunpathol. 2002;30:195-8.
7. Borchers AT, Kenn CL, Gershwin ME. Hope for hygiene hypothesis: when the dirt hits the fan. J Asthma. 2005;42:225-47.
8. Mickleborough TD. Dietary omega-3 polyunsatured fatty acid supplementation and airway hyperresponsiveness in asthma. J Asthma. 2005;42:305-14.
9. Van Odijk J, Kull I, Borres MP, Brandtzaeg P, Edberg U, Hanson LA et al. Breastfeeding and allergic disease: a multidisciplinary review of the literature (1996-2001) on the mode of early feeding in infancy and its impact on later atopic manifestations. Allergy. 2003;58:833-43.
10. Milgrom H, Bender B, Ackerson L, Bowry P, Smith B, Rand C. Noncompliance and treatment failure in children with asthma. J Allergy Clin Immunol. 1996;98:1051-7.
11. Rand CS. Non-adherence with asthma therapy: more than just forgetting. J Pediatr. 2005;146:157-9.
12. Crompton GK. How to achieve good compliance with inhaled asthma therapy. Respir Med. 2004;98 Suppl B:S35-40.
13. Host A, Halken S. Can we apply clinical studies to real life? Evidence-based recommendations from studies on development of allergic diseases and allergy prevention. Allergy. 2002;57:389-97.
14. Niggemann B. How can we improve compliance in pediatric pneumology and allergology. Allergy. 2005;60:735-8.