

EDITORIAL

WHEEZE: THE FIRST EPISODE

Respiratory disease is highly frequent in primary care consultations and emergency services, predominating in many places and particular periods the year^{1,2} and the percentage of bronchospasm crises in the first year of life can be very high in some environments³. These children should undoubtedly be treated by specialists with broad experience of childhood diseases and the smaller the children, the more important this becomes. In some countries training in pediatrics is very limited and consequently these children are managed by family physicians or practitioners, as shown by a study by Katz et al⁴, which reveals that in Europe there are no pediatricians in six countries, the care of these children is shared between pediatricians and family physicians or practitioners in 16 and that these children are managed exclusively by pediatricians in only 12. Consequently, the mean number of children managed by specialists oscillates between 401 and 15,150 in the countries included in the study.

In the present edition of Allergologia et Immunopathologia, Castro-Rodríguez et al report the results of a survey of Spanish pediatricians, which was based on a simulated case of a first mild-to-moderate wheezing attack in a 5-month-old boy and aimed to identify their therapeutic criteria and degree of compliance with several of the most recent treatment guidelines⁵. These authors had previously published another feature of the survey, which investigated how the same pediatricians monitored lung function in asthmatic children⁶. The survey, which was completed and returned by 2,347 pediatricians from distinct geographical areas, occupational settings (rural, primary care, hospitals), age and sex, revealed clear differences in their therapeutic approach, in both initial treatment and follow-up. As the authors point out, although the criteria can be considered acceptable, errors were found, especially in the tendency shown by 27.6 % of the pediatricians to add inhaled corticosteroids to short-acting beta2-agonists to treat the acute attack and that shown by 20.7 % of the pediatricians who used inhaled corticosteroids as maintenance therapy. This therapeutic approach is common and, considering that the first episode of bronchospasm is not always managed by a pediatrician experienced not only in diseases of infancy but also in respiratory disease, this error is probably much more widespread. The simulated case concerned an infant with a family history of atopy and eczematous lesions, suggesting that the wheezing episode could be the first manifestation of allergic asthma. The authors provided no further information that could lead to other diagnoses, such as bronchiolitis, which is highly frequent in the

first year of life and whose symptoms are similar to those of acute asthma attacks, but which could require distinct treatment⁷.

Some anatomophysiological features of the airways in infants and small children predispose to the development of processes that can lead to narrowing or bronchial obstruction and which are manifested by common symptoms such as cough, shortness of breath, wheezing, and noisy breathing.

Obviously, lower bronchial caliber is a basic element facilitating obstruction, as a result of mucous membrane inflammation, smooth muscle constriction or increased tracheobronchial mucous production. Another factor contributing to bronchoconstriction is the infant's physiological vagotony, which is prolonged in the first few years of life, as demonstrated by Montgomery et al through methacholine inhalation⁸. In addition, the immaturity of the immune system, which can last for several years in some children (transitory immunodeficiency of the infant), facilitates the development of inflammatory bronchial processes, manifested by symptoms similar to those of other tracheobronchial processes.

With these antecedents, processes with distinct etiology not infrequently manifest clinically with similar symptoms, which can lead to wrong diagnoses unless the physician has in-depth knowledge of differential signs, such as genetic antecedents, habits and family environment, among others. Hence the risk of labeling all children with cough as asthmatic or of equating wheezing with asthma, while forgetting Chevalier-Jackson's old and true aphorism that not everything that wheezes is asthma.

In view of the above, establishing the concept of "asthma" in this age group is far from easy and consequently, in the Third International Consensus Statement on the Management of Childhood Asthma, it is defined as "recurrent wheezing and/or persistent coughing in a setting where asthma is likely and other rarer conditions have been excluded"⁹. In other words, the diagnosis of asthma is reached by previously excluding other possible causes of dyspnea or wheezing. The most frequent alternative diagnosis, "wheezing bronchitis", is characterized by single or recurrent episodes of dyspnea or wheezing and or noisy breathing, of variable intensity, which can be febrile and which begins in the first year of life and does not last beyond the third.

These transitory processes can be due to several causes, such as viral infections (respiratory syncytial virus, parainfluenza, influenza), which cause bronchiolitis and which can recur, especially in immunocompromised children, as well as domestic contaminants (tobacco smoke, chemical or industrial cleaning products), and climactic changes (sudden drops in temperature), among many other factors.

In addition to asthma and wheezing bronchitis, many other bronchopulmonary diseases develop early, with symptoms that are similar to those of these processes. Among these

diseases are sinusitis, adenoiditis, cystic fibrosis, ciliary dyskinesias, various malformations, gastroesophageal reflux, etc., which should be borne in mind in these patients.

Three episodes of dyspnea should alert physicians to the possibility that the child may be showing the first manifestations of asthma, which will continue in the following years. However, this does not seem to happen when onset occurs before the age of 3 years because, despite recurrent attacks, the child may not have a predisposition to atopy, the most important factor in the persistence of the process. Hence, the various elements predisposing the child to atopy and asthma must be evaluated.

When these antecedents lead physicians to suspect that dyspnea may indicate the onset of asthmatic disease, even without waiting for a second or third episode, adequate preventive measures should be adopted (avoidance of allergens and environmental irritants) to delay or minimize disease progression. When opportune, allergy study is the key to diagnosis.

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