

available labels should be possible. However, I believe that there is an advantage of using the single term "chronic asthmatic bronchitis" thus ensuring all patients are offered appropriate therapy. We can then forget the precise diagnosis and treat all patients with chronic wheeze, cough and shortness of breath as if they are asthmatic. Appropriate inhaled therapy could then be given with variations of the dose of inhaled bronchodilator and inhaled prophylactic agent, depending on disease severity and response to treatment, assessed by respiratory function tests in the laboratory and at home monitoring of peak flow. The greater the asthmatic component, the greater the patient's response will be to such therapy but as the more "at risk" patients with airflow obstruction there will be a reduction in both mortality and morbidity in patients who wheeze. Regular therapy may also be associated with a reduction in the accelerated rate of decline of respiratory function found in most patients with chronic airflow obstruction, allowing an improved quality of life to such patients in their later years [9].

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Definitions of chronic respiratory disease: what about children?

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Asthma is by far the most common disease in childhood affecting more than 10% of all children and there are suggestions that prevalence, severity and mortality are increasing in recent years. More than in adults, the description of asthma in young children has always been confused. Terms such as asthmatic bronchitis, wheezy bronchitis, recurrent bronchitis and wheeze associated respiratory illness have been used in the past to describe episodic wheezing in infants and young children. These terms arose because paediatricians felt that episodic wheezing in young children had a more benign prognosis than asthma of older children or of adults. Recently, the use of the term asthma has been advocated to describe all wheezing illness in children, allowing no distinction between virus induced wheeze and other varieties of asthma. A main reason for using the term "asthma" was the demonstration that children with viral induced wheeze (labelled wheezy bronchitis) and children with asthma (wheezing evoked by additional precipitating factors) both differed from control subjects in terms of atopic markers and both shared several clinical features. Therefore, it was

suggested that both asthma and wheezy bronchitis arose from the same population and that the only difference between them was severity [1].

Another observation leading to the abandonment of terms such as asthmatic bronchitis was the demonstration that childhood asthma is commonly underdiagnosed and undertreated. In a study by SPEIGHT *et al.* it was clearly shown that asthma was diagnosed in only 21/179 (12%) of children suffering from recurrent wheeze and that bronchodilator treatment was rarely offered in the absence of such a diagnosis. Furthermore, two thirds of those children had never received a bronchodilator. In this study it was also shown that parents appeared to be uniformly relieved when first told that their child had asthma and had been given detailed advice about its management [2].

In a study from our group, it was demonstrated that in pre-school children with asthma, only 23% were labelled as having asthma, although 83% of them suffered from more than 12 wheezy episodes a year. Most of these children were diagnosed as suffering from recurrent asthmatic bronchitis (59%) while the others were classified as having "non-specific" diagnoses (chestiness, bronchitis, hyperreactive airways). Medications most frequently prescribed were antibiotics and

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antitussives. In this study, it was also demonstrated that if a child was labelled as having asthma, beta-agonists were more frequently prescribed than if the child was labelled as suffering from recurrent asthmatic bronchitis or suffering from other "non-specific diagnoses" [3]. In 1986, a survey among Belgian paediatricians revealed that 73% make a distinction between asthma and asthmatic bronchitis. The same survey performed in 1988 showed that only 55% make the distinction, suggesting that recurrent wheezing is more often labelled as asthma. At the moment, one can assume that if a wheezing child is classified as having asthma a more proper treatment will be instituted than if the child is classified as having recurrent asthmatic bronchitis. However, the question remains whether pathophysiologically and for prognostic implications, all wheeze should be labelled as asthma or whether a distinction should be made between asthma and wheezy bronchitis.

Childhood wheeze, particularly in younger children, is generally induced by virus infections as these episodes are often associated with fever and rhinitis. Viruses have been isolated in up to 42% of acute wheezing periods and technical difficulties in virus isolation are likely to account for most of the negative results [4]. These episodes tend to decrease with age both in number and severity. On the other hand, chronic symptoms characterized by cough and wheeze particularly at night or after exercise, unrelated to viral infections, tend to increase with age from about the age of 3 years, although they can begin earlier, and in most children symptoms have declined in puberty. In these children an IgE response to aero-allergens can often be detected as being responsible for "allergic" asthma. These two patterns represents a definite subset of wheezing disease, as most children with episodic symptoms cease wheezing in early childhood and do not develop asthma. The two patterns of wheezing are not exclusive, however, as a proportion of children who have wheezy bronchitis in infancy will develop asthma as they grow older.

In a recent report by WILSON [5] it is hypothesised that there are three independent variables which determine the predisposition to wheeze in childhood: viral responsiveness (an increased susceptibility to symptomatic viral infections), bronchial responsiveness and atopic hypersensitivity. For example, the presence of viral

responsiveness and increased bronchial responsiveness leads to the condition of wheezy bronchitis. These three variables, in different combination, interact to give rise to different patterns of wheezing and between the three variables there is a dynamic interplay varying with age, allergen load, environmental conditions and level of viral immunity.

However, does it matter whether wheezy bronchitis is accepted as a separate pattern of asthma or should we label all wheezing as asthma? From a therapeutic point of view, I think, one should regard them as one group, as there is no doubt that all wheezing at any age should be treated with bronchodilators and with additional anti-asthmatic drugs (disodium cromoglycate, corticosteroids) if the wheezing is severe [6].

For prognostic criteria, for pathophysiological and for epidemiological studies, one can suggest that it might be advisable to separate these two main patterns of asthma from each other. The term "bronchitis", however, should be abandoned as by using this term a reflexory prescription of antibiotics, by many physicians, is evoked. Therefore, one should consider the possibility to replace the term "bronchitis" by more appropriate terms, such as "viral induced asthma" or "viral induced wheeze".

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