doses of inhaled steroids. In moderate COPD patients, inhaled steroids and a combined bronchodilator therapy with two (β₂, plus anticholinergic) or three bronchodilators by adding theophylline is probably the best therapy. In severe COPD oral steroids should be added. Evaluation of the efficacy of all these treatments should be done on long-term basis.

References


Chronic wheezers. Treat and what the hell!

G.M. Cochrane*

Precise diagnostic labelling may be considered to be of the utmost importance by the academic, but the practising clinician knows such dogma may lead to less than ideal management of an individual patient. The precise diagnosis of emphysema, particularly non-obstructive emphysema, is increasingly recognised in pathology studies [1] and with CT scans [2] but the diagnosis by either technique may lead to an improvement in the individuals lifestyle but may also lead to a negative therapeutic approach by the doctor. The impression is that too precise a diagnosis in chronic wheezers may lead to withholding therapy which could be effective in an individual patient. Perhaps in the majority of people with diseases associated with airflow obstruction it is better to treat and assess response to treatment rather than to seek absolute diagnostic purity.

Misdiagnosis

Diagnostic labels in chronic airflow obstruction have already been extensively discussed but I consider them to be based on the “Dutch hypothesis”: that is, they are not separate diseases but a continuum of chronic disease and that they have in common the major risk factors of atopy and smoking which occur in about one third of the population. Misdiagnosis refers not to this continuum of disease but to the other diseases which may on initial presentation be confused because of their similar histories of wheeze, shortness of breath and sputum production (table 1). The diagnoses outlined in table 1 should be correctly made from a combination of taking the history, clinical examination and instigating appropriate investigation. Upper airflow obstruction is associated with greater airflow obstruction during inspiration leading to stridor and the obvious abnormalities of the flow volume loop where there is a greater reduction in inspiratory flow rate during the forced vital capacity manoeuvre than in expiratory flow rates.

Table 1. - Diagnoses not to be confused with chronic airflow obstruction

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Upper airway obstruction</th>
<th>Inhalation of a foreign body</th>
<th>Obstructing neoplasm</th>
<th>Pulmonary embolus</th>
<th>Cystic fibrosis</th>
<th>Pulmonary oedema</th>
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</table>

The detection of an inhaled foreign body may be more problematic but the absence of generalised polyphonic wheezing in the presence of a unilateral monophonic wheeze is diagnostically helpful. Inhaled foreign bodies which are not radio-opaque may be demonstrated by taking chest radiographs in inspiration and expiration where in expiration the obstructed lung segment or lobe remains inflated while the remainder of the lung will deflate in a normal fashion. Obviously in this situation therapy is directed at the removal of the foreign body. Fortunately it is rare to confuse a neoplasm of the lung for a disease of chronic airflow obstruction even though

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the aetiological factors, namely cigarette smoking, are identical. In younger patients pulmonary embolus may sometimes be confused with asthma but this is unusual, although cystic fibrosis has certainly presented in a mild form in adolescents as asthma when the chest X-ray again usually is helpful showing classical bronchietatic changes and the patient is usually thin and has some gastro-intestinal disturbance. Low grade pulmonary oedema has a similar pattern of nocturnal wakening and orthopenic as the diseases of chronic airflow obstruction. Examination will demonstrate the signs of late inspiratory crackles of asthma oedema as distinct from the early inspiratory crackles of airflow obstruction. Such misdiagnoses should be rare and easily avoided.

Inappropriate diagnostic labelling may affect the therapeutic approach

The diagnostic label of chronic obstructive pulmonary disease or COPD is associated with a feeling of chronic irreversible airflow obstruction and there is a tendency to consider that no therapy or therapeutic intervention is worthwhile. It has been shown that the label of "asthma" or of "bronchitis" in childhood is important in determining the intensity of subsequent treatment with children labelled as bronchitis rarely receiving the prophylactic treatment for asthma [3]. The diagnosis of asthma is rarely made in patients who are elderly, despite there being good evidence that the incidence of asthma is consistent through all ages and does occur in the elderly and if such patients are labelled obstructive bronchitis, they fail to receive appropriate treatment.

In an audit of the management of diseases of airflow obstruction in 2 large family practices Horn and Cochrane [4] noted that the overall level of therapy prescribed was in general related to the objective severity of the patient's airflow obstruction and to some extent to the symptoms. However, on analysing individual patients, the majority received suboptimal therapy, inhaled corticosteroids were prescribed to only a third of the patients who clearly were suffering from an asthma/asthma bronchitis disease and that even in patients labelled as "chronic bronchitis" inhaled beta agonists were infrequently used [4]. In a further extension of their work, in a survey of 312, these authors noted that spirometry was normal in less than half the patients and below 50% predicted in a fifth. The forced expired volume in 1 second (FEV1) had declined more rapidly than expected, with increasing age, particularly amongst smokers and those who had the lowest level of treatment [5]. More aggressive therapy in patients with chronic airflow obstruction may reduce the rate of lung function decline. Morbidity was shown to be correlated with the spirometry and was extensive, with patients reporting substantial breathlessness and restrictions to their lifestyle and nearly half losing time from work in the preceding 12 months. Within the survey the authors also found that there was a tendency for elderly patients to be categorised as having chronic airflow obstruction and younger patients as having asthma with differences in therapeutic approach.

Littlejohns et al. [6], in a community study on the treatment of adult asthma and the relevance of diagnosis, confirmed the difficulty of distinguishing asthma from chronic bronchitis in adults both clinically and semantically. In a further paper these authors [7] showed that adult patients diagnosed as asthmatic were three times more likely to receive bronchodilators than patients labelled bronchitic and 12 times as likely if no diagnosis had been made. They concluded that further research into the patient and doctor perception of specific respiratory symptoms and their effect on drug prescribing is required, unfortunately suggesting that, as the increase in prescribed bronchodilator drugs had not been associated with a fall in asthma morbidity and mortality, bronchodilator therapy was being over prescribed.

Why label? Why not treat?

Diseases associated with chronic airflow obstruction are considered to have 3 components, bronchoconstriction, loss of elastic recoil and airway inflammation. Even in patients who are smokers it has long been considered that there is airway inflammation, whether it be due to "neutrophilic bronchitis" as distinct from the "eosinophilic bronchitis" attributed to asthma. The logical therapy to reduce bronchoconstriction is bronchodilators combined with prophylactic agents to relieve or reduce airway inflammation. Loss of elastic recoil is a more difficult therapeutic problem. Diagnostic labelling particularly with the use of emphysema or chronic bronchitis appears to reduce the enthusiasm for the prescription of prophylactic agents, such as inhaled corticosteroids or even a trial of oral corticosteroids. Treatment using selected beta agonists, particularly by the inhaled route, is considered to be extremely safe but particularly so if it is in conjunction with an inhaled prophylactic agent to reduce associated airway inflammation. In children, disodium cromoglycate has been shown to be not only effective but potentially reduces lung damage in children. Inhaled corticosteroids are regarded as being associated with minor side effects of candidiasis and hoarse voice and with few systemic side effects until a dose of over 1,000 mg. of Bectamethasone is inhaled in adults. Short term trials of oral corticosteroids have frequently been recommended and are again associated with few serious side effects, if prescribed in an appropriate fashion.

Chronic Asthmatic bronchitis - A more useful label!

Pride et al. have concluded in their paper [8] on diagnostic labels in chronic airflow obstruction that it was disappointing that consistent labelling causes so much trouble when we are concerned with only a small number of important features of these diseases. They recommended a more systematic informative use of
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].

References


Definitions of chronic respiratory disease: what about children?

H. Van Bever*

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 Speir 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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