

## An international questionnaire survey and its implications

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In order to evaluate problems incurred with the use of the present labels in obstructive lung diseases, an international survey [1] was set up with the following objectives: 1) assessing how these patients are being labelled, 2) assessing how labels influence investigations and management, and 3) assessing the current usage of diagnostic labels.

### *Labelling of model patients*

To assess diagnostic labelling, 4 typical case histories of middle aged men, all current or earlier smokers with various combinations of chronic airway obstruction (CAO) or chronic mucus hypersecretion (CMHS), were drafted and it was asked how the respondent would label such a patient when corresponding in English with another physician. For each case it was asked how often he would use a number of stated investigations, ways of assessing reversibility and medications for maintenance therapy. Most of the 121 respondents to the questionnaire were mid-career chest physicians, mostly in academic medicine, from 11 countries of Western Europe and North-America.

- The first model patient had predominant CMHS without CAO. Most notable was that about half of the respondents felt it necessary to qualify the label 'chronic bronchitis'.

- The second patient had suffered from childhood asthma and now presented with greatly although not fully reversible CAO. His disease was labelled as asthma by 71% of the respondents, but 8 and 17% respectively used the terms 'chronic bronchitis' unlabelled and 'chronic asthmatic bronchitis'.

- The third patient had clear features of non-reversible CAO and alveolar destruction. 90% labelled as emphysema; 37% either used the term 'chronic obstructive lung disease' (COLD), only, or added it to the term emphysema.

- Finally, the fourth patient, 68 yr old, had CMHS, poorly reversible severe CAO, altered arterial blood gases, but no clinical signs of emphysema. His diagnosis was given not less than 31 labels by these respondents. 44% used the term COLD alone or in combination and 26% the term 'chronic bronchitis', one third of them unqualified.

### *Investigations and management*

Questions on diagnostic work-up and management related to these 4 patients confirmed, as expected, that selected investigations and drugs were heavily

influenced by the diagnostic label chosen. As an example, measurement of diffusing capacity would not often be requested in the first model patient, but quite often in the third one. However, there were clear differences between countries: in all model patients, including the first, Belgian physicians would for example request DCO measurement more than twice as often than their German colleagues. For maintenance treatment the use of inhaled steroids would be more frequent in the second patient, showing good reversibility, than in the last two patients whose CAO was not well reversible. Between model patients and between countries there would be a marked difference in the use of inhaled anticholinergics and oral mucolytics.

### *Usage of diagnostic labels*

Unrelated to the model patients, there were questions about the frequency of current usage of some 23 possible diagnostic labels in communicating with physicians and the respondents were also asked whether they estimated that the same labels referred to well-defined clinical entities.

Table 1 presents for the established labels 'asthma', 'emphysema' and 'chronic bronchitis', as well as for some terms referring to CAO, the mean responses for all 121 respondents and the lowest and highest mean responses from any of the individual countries. Values in the left column are the percentages of physicians estimating that the label corresponded to a well-defined entity; on the right, the frequency of use is expressed as a score, ranging between '0' (never used by any physician) to '3' (always used by all physicians). The classical entities are clearly estimated by most physicians to be well-defined and its labels are also most frequently used, whereas labels referring to airway obstruction are found less well-defined and are less often used. It also appears that in the latter case differences between countries are larger. Figures are surprisingly high for the label 'chronic bronchitis', which had been rather indiscriminately used in the labelling of the model patients. In communicating with other physicians, 68% of the respondents reported that they used this term either 'often' or 'always'; whereas all the USA chest physicians reported this frequent use, only 58% of the Spanish did.

### **Implications**

### *Conclusions*

With regard to labelling, a number of conclusions can be drawn from this survey:

- the terms 'asthma' and 'emphysema' are well accepted

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Table 1. - Definition and usage of terms

Terms	Well defined entity (% yes)			Used (score)		
	Low	Mean	High	Low	Mean	High
Asthma	80	<u>91</u>	100	1.9	<u>2.4</u>	2.9
Emphysema	70	<u>86</u>	100	1.9	<u>2.1</u>	2.6
Chronic bronchitis	58	<u>79</u>	100	1.6	<u>2.1</u>	2.6
Chr. airflow obstruction	20	<u>60</u>	90	0.2	<u>0.8</u>	1.7
Chr. obstr. lung disease	25	<u>56</u>	83	0.6	<u>1.4</u>	1.9
Chr. obstr. bronchitis	0	<u>56</u>	86	0.2	<u>1.1</u>	2.1
Chr. asthmatic bronchitis	0	<u>36</u>	57	0	<u>0.9</u>	1.5

and widely used; - despite the sample bias towards university-based chest physicians, many respondents appeared to be confused about the use of the term 'chronic bronchitis', but were either unaware of it, or did not care. - alternative terms to indicate chronic airflow obstruction are not generally understood, nor widely used; among these terms, the use of COLD (or COPD) is best accepted. As stated previously [1], it seems to make little sense to introduce new terms, since they only add up to existing ones.

#### Suggestions ?

In each patient within the scope of chronic non-specific lung disease (CNSLD) or generalised obstructive lung diseases (GOLD), at least 5 basic features can be identified: chronic mucus hypersecretion, airway hyperresponsiveness, reversibility of airflow obstruction, chronic obstructive (or oblitative) bronchiolitis, and alveolar destruction. These features result from common etiological factors, but are localised at different sites of the respiratory tract. In the individual patient they may coexist in variable frequency and intensity. Since they are actually determining clinical presentation, prognosis and treatment, they need to be identified and graded at a diagnostic work-up. Coordinated efforts should thus be made in reaching agreement on the identification and the gradation of these features. Once this has been achieved a more structured usage of labels could be envisaged.

In view of its wide acceptance, the term 'asthma' should be maintained. Separation from other forms of obstructive lung disease may occasionally be difficult, but some guidelines could be established, mainly based on the presence or absence of a history of attacks of dyspnoea and wheezing, a rapid or total reversibility of airway obstruction, a marked circadian variability of peak expiratory flow rate and a specific 'asthma' pattern of airway hyperresponsiveness.

Recommending further extensive use of the term 'chronic bronchitis' to refer to patients with non-asthmatic obstructive lung disease would add to the present

confusion. I would support an earlier plea [2] to restrict its use to simply indicate chronic mucus hypersecretion or to abandon it. If a patient with persistent airway obstruction does not have these 'asthma characteristics', it seems preferable to use the terms 'COLD' or 'COPD', because they both refer to obstruction as the most important feature and to a disease affecting the lung. When marked - to be defined reversibility, alveolar destruction or hypersecretion are found to be present, one can add labels referring to this to the main term, e.g. 'COLD with reversibility and emphysema'. When airway obstruction and 'asthma characteristics' are not present, one should refer to the features present by labelling as e.g. 'chronic mucus hypersecretion' or 'pure emphysema'.

#### Summary

As emphasised by the recent international questionnaire survey, the absence of an agreed terminology in chronic non-specific lung diseases leads to much confusion and undoubtedly impairs communication between physicians. In each patient within the scope of CNSLD, the presence and combination of a number of basic features should be identified. The term bronchial asthma should be used when a number of features are present which are sufficiently characteristic to differentiate it from other forms of permanent airway obstruction. In non-asthmatic obstructive disease the term 'COLD' (or COPD), followed by some qualifying labels, seems preferable. Use of the term 'chronic bronchitis' should be restricted to refer as 'chronic mucus hypersecretion' or be abandoned.

#### References

1. Pride NB, Vermeire P, Allegra L. - Diagnostic labels in chronic airflow obstruction: responses to a questionnaire with model case histories in North American and Western European countries. *Eur Resp J*, 1989, 2, 702-709.
2. Fletcher C, Pride NB. - Definitions of emphysema, chronic bronchitis, asthma, and airflow obstruction: 25 years on from the Ciba symposium. *Thorax*, 1984, 39, 81-85.