COPD assessment: I, II, III, IV and/or A, B, C, D

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New study in the ERJ examines the distribution of COPD patients in primary care according to the new GOLD criteria http://ow.ly/tlHiQ

In 2001 the Global Initiative for Chronic Obstructive Lung Disease (GOLD) committee published its first consensus report [1]. At that time the authors suggested that the assessment of chronic obstructive pulmonary disease (COPD) should be primarily based on the extent of airflow limitation. In the following years, evidence accumulated that COPD is a complex and heterogeneous disease and that airflow limitation is not closely correlated to a variety of patient-related outcomes [2]. These findings, and the intent to create a more comprehensive system to better reflect the situation of an individual patient, were the basis for a novel concept recently published by GOLD. Now, the assessment is no longer based on the extent of airflow limitation alone; in addition, the patient's exacerbation history and symptoms are taken into account [3]. Based on the severity of symptoms and the exacerbation risk, four categories (A, B, C and D) were defined.

Since then, this novel assessment scheme has been studied in several existing cohorts, ranging from more than 2000 clinically stable COPD patients in the ECLIPSE study (Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints) [4], over a more broadly composed cohort of 4000 smokers from the COPDGene study [5], to population samples from Copenhagen [6] and the Spanish COCOMICS study (Collaborative Cohorts to assess Multicomponent Indices of COPD in Spain) [7]. Agusti *et al.* [8] summarised and compared the results of these four cohorts. The prevalence of the four groups varied between populations; patients classified as A or D seem to be stable over time, mortality is lowest in A, highest in D and similar in B and C, exacerbation rates rise from A to D, but hospitalisations show a similar pattern as mortality. Importantly, comorbidities seem to be more prevalent in the more symptomatic groups (B and D) [8].

In this edition of the *European Respiratory Journal*, another study describing the distribution of COPD patients using the novel GOLD concept is published [9]. What does this study add to the published evidence?

First, the study confirms that exacerbation risk and hospitalisation risk are not closely correlated. Whereas the percentage of patients with at least one COPD exacerbation showed only a slight increase from group A to D, the hospitalisation rate escalated by a factor of more than six. It is noteworthy that when comparing groups A and B the hospitalisation rate doubled. In parallel, patients in groups B and D had higher levels of cerebrovascular disease, depression, cancer and diabetes. In agreement with Lange *et al.* [6], the authors suggest that group B patients have to be evaluated carefully regarding comorbidities.

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Secondly, it also confirms that forced expiratory volume in 1 s (FEV_1) is of limited value regarding the prediction of exacerbations, *e.g.* of the patients with FEV_1 <50% predicted, 70% had none or one exacerbation, and of the patients with two or more exacerbations, 60% had an FEV_1 ⩾50% predicted. This supports findings from the COPDgene study showing that, *e.g.* in group D patients, the exacerbation rate is higher in patients categorised as group D based on a history of frequent exacerbations than in patients that had an FEV_1 of <50% predicted [5]. However, it also demonstrates the ascertainment bias found in studies from general practice; patients are much more likely to be diagnosed with COPD if they experience exacerbations and it seems likely that COPD in subjects with FEV_1 ⩾50% predicted and no exacerbations is still significantly underdiagnosed.

Finally, this is the first study in a primary care setting that describes the distribution of COPD patients and in most countries this is where COPD patients are cared for. The authors have collected a large database of COPD patients attending primary care with data regarding lung function, symptoms (according to the modified Medical Research Council score, mMRC), exacerbation rates and comorbidities. AGUSTI *et al.* [8] calculated the mean of the distribution considering the ECLIPSE, the COPDgene and the COCOMICS cohorts: group A 32%, group B 21%, group C 10% and Group D 37%. In the study by HAUGHNEY *et al.* [9], the distribution regarding group A (36.1%) and group B (19.1%) is very similar. In contrast, more patients are in group C (19.6) and fewer in group D (25.3%). This may represent secondary *versus* primary care, but it may also have to do with the assessment of symptoms. The mMRC scale was used as a measure of dyspnoea and the questions may be perceived differently in different countries and languages. In addition, it has been shown that a threshold of ⩾2 when applying the mMRC is reached by fewer patients than a threshold of ⩾10 when using a more comprehensive tool, such as the COPD assessment test [10].

Where do we go from here? There are several open questions that that still need to be addressed [8]. We think that, in particular, the following issues are relevant.

1) How do we apply evidence-based therapies to categories A to D? To date, there are no published studies where therapies have been evaluated based on this novel assessment system; we hope that such data will become available soon.

2) Can the assessment system be used for follow-up in addition to the initial evaluation? This question can only be answered if data from escalation and/or de-escalation studies become available.

3) How do we include comorbidities in the assessment of COPD? Comorbidities are highly relevant, but we do not know for sure which tests should be mandatory and what the subsequent therapeutic consequences should be.

Finally, GOLD is more than an assessment scheme. With the 2011 revision spirometry changed from being a supportive diagnostic tool to be a requirement for the diagnosis [3]. Given that spirometry is reimbursed in general practice in the UK, it is somewhat sad to see that 32% of patients with a diagnosis of COPD did not have spirometry and mMRC score available. Given the low prevalence of COPD in the sample, it also seems unlikely that spirometry is offered to all subjects 40 years or older with respiratory symptoms and a relevant exposure. Hopefully, the widespread focus on details in assessment will also lead to more awareness of COPD basics.

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