Does the GOLD 2017 Classification Improve the Ability to Predict Exacerbation and Mortality?

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In the Global Burden of Disease study[1,2] chronic obstructive pulmonary disease (COPD) was expected to be become one of the most prevalent causes of death globally by 2030. Among patients admitted with acute exacerbation of COPD, 2-year mortality was 43%[3]. How to manage the symptoms such as dyspnea, and to decrease number of exacerbations and mortality is very important in patients with COPD[4].

Since Global Initiative for Chronic Obstructive Lung Disease (GOLD) classification in 2007 was based only on patients' forced expiratory volume in 1 second to guide treatment, guideline has been updated to guide treatment, but also to be used for prognosis[5,6]. However, previous studies have been shown that the GOLD 2011 classification does not predict mortality or respiratory outcomes better than the GOLD 2007 classification[6-10]. In 2017, the GOLD committee defined the future risk of exacerbations solely on the history of exacerbations in the previous one year.

Clinicians want to know that recent GOLD 2017 revision can provide better understanding of the disease's effect on patients with COPD than previous guidelines. There are researches to find out how well GOLD 2017 works. In this issue of the *Tuberculosis and Respiratory Diseases* journal, Candemir et al.[11] investigated the clinical variables in 427 patients with COPD according to each classification; GOLD 2017 Combined Assessment and Spirometric Stage of COPD, respectively.

Candemir et al.[11] showed that patients with respiratory symptom of modified Medical Research Council (mMRC) 0-1 (groups A and C) had similar pulmonary function. It means that there is inconsistency between risk of exacerbation and severity of airflow limitation. It also showed that mMRC scale score increased according to spirometric stage 1 to 4. Candemir concluded that the combination of both spirometric stage and GOLD 2017 is important to estimated clinical variables.
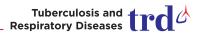
We wonder whether these results justify clinicians to come back to previous GOLD 2011 classification.

This study has limitation that authors investigated just clinical variables rather than clinical outcomes such as exacerbation, respiratory mortality, and all-cause mortality which are crucial in clinical practice. After prespecifying the clinical outcomes, statistically meaningful clinical variables must be determined or composite clinical variable by grouping can be suggested by analysis.

There are recently published researches to assess GOLD 2017 in terms of predictability for exacerbation and mortality. In the PLATINO study, Menezes et al.[12] reported that there was no clear pattern with respect to incidence-mortality rates or the distribution of patients according to GOLD 2011/2017.

Kahnert et al.[13] analyzed data from 2,228 patients using GODL 2017, and showed that when groups A–D were dichotomized as AC vs. BD (symptoms) and AB vs. CD (exacerbations), all comorbidities had correlation with symptoms and/or exacerbations. In the Danish nationwide cohort study with 22,621 patients, Gedebjerg et al.[14] observed that all-cause, respiratory and cardiovascular disease-related mortality were higher for in group B than for patients in group C according to GOLD 2017 classification.

In this issue, Candemir et al.[11] can reevaluate the correlation with comorbidities instead of excluding them. Clinically important deterioration which is a composite endpoint measuring clinical features of COPD, including lung function, patient-reported outcomes, and exacerbation can be used to reassess

the clinical outcomes[15].

Gedebjerg et al.[14] further subdivided the patients by spirometry into 16 subgroups (1A to 4D) which predicted mortality more accurately than previous GOLD 2007 and 2011.

In 427 patients in Candemir et al.'s study[11], new reclassification of the groups may be suggested: (1) subdivision (1A to 4D); or (2) patients with stage 1 or 2 will be classified to group AC and patients with stage 3 or 4 to group BD to reassess the all-cause mortality and respiratory mortality.

In conclusion, GOLD 2017 doesn't seem to predict exacerbation and mortality more accurately than previous guideline. Further studies with new concept are needed to develop better guideline in order to prevent exacerbation and to decrease mortality in clinical practice.

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

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