Rev Port Pneumol. 2016;22(4):214–221

revista portuguesa de PNEUMOLOGIA portuguese journal of pulmonology

www.revportpneumol.org

SPECIAL ARTICLE

COPD: A stepwise or a hit hard approach?

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Received 22 August 2015; accepted 27 December 2015
Available online 27 February 2016

KEYWORDS
COPD;
Stepwise;
Hit hard;
Step-up;
ICS withdrawal;
Bronchodilators;
ICS

Abstract Current guidelines differ slightly on the recommendations for treatment of Chronic Obstructive Pulmonary Disease (COPD) patients, and although there are some undisputed recommendations, there is still debate regarding the management of COPD. One of the hindrances to deciding which therapeutic approach to choose is late diagnosis or misdiagnosis of COPD. After a proper diagnosis is achieved and severity assessed, the choice between a stepwise or ''hit hard'' approach has to be made. For GOLD A patients the stepwise approach is recommended, whilst for B, C and D patients this remains debatable. Moreover, in patients for whom inhaled corticosteroids (ICS) are recommended, a step-up or ''hit hard'' approach with triple therapy will depend on the patient's characteristics and, for patients who are being over-treated with ICS, ICS withdrawal should be performed, in order to optimize therapy and reduce excessive medications.

This paper discusses and proposes stepwise, ''hit hard'', step-up and ICS withdrawal therapeutic approaches for COPD patients based on their GOLD group. We conclude that all approaches have benefits, and only a careful patient selection will determine which approach is better, and which patients will benefit the most from each approach.

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http://dx.doi.org/10.1016/j.rppnen.2015.12.012

Introduction

Current guidelines differ slightly on the recommendations for treatment of Chronic Obstructive Pulmonary Disease (COPD) patients, mainly because patient stratification is not consensual across guidelines.[1–5] Although there are some undisputed recommendations, such as smoking cessation, physical activity programs, and influenza and pneumococcal vaccination, there is still debate regarding the management of COPD.[6–12] The therapeutic approach proposed by the Global Initiative for Chronic Obstructive Lung Disease (GOLD), and based solely on the GOLD classification of COPD,[2] is not entirely satisfactory, given the variability within GOLD groups, namely regarding hospitalizations and mortality.[13] However, therapy has to be based on some classification system, and the GOLD classification is the most widely accepted, even with its caveats.

One of the hindrances to deciding which therapeutic approach to choose is late diagnosis or misdiagnosis of COPD. Patients who are not diagnosed at the early stages of the disease cannot receive the early treatment which has been shown to be beneficial.[6,11,14] On the other hand, patients misdiagnosed with asthma or Asthma-COPD overlap syndrome (ACOS), will be overtreated with inhaled corticosteroids (ICS), and are likely to see no improvement in their symptom burden. In fact, two recent analyses showed that, in current clinical practice, ICS are being prescribed inappropriately,[15,16] and that thousands of patients may be overtreated.

After a proper diagnosis is achieved, and severity assessed, the choice for a stepwise or ''hit hard'' approach has to be made, and if for GOLD A patients the stepwise approach is recommended,[2] for B, C and D patients this remains debatable.[17] The argument for the stepwise approach is to not overtreat patients, but some patients may benefit from a ''hit hard'' approach, with the aim of maximal bronchodilation.[12,13,18–20] In patients who will benefit from dual bronchodilation, a long-acting muscarinic antagonist/long-acting beta-agonist (LAMA/LABA) fixed-dose combination is advantageous.[11,12,21–24] Also, in patients for whom ICS is recommended, a step-up or ''hit hard'' approach with triple therapy will depend on the patient's characteristics.[2,4,5,17] For patients who are being overtreated with ICS, ICS withdrawal should be performed, in order to optimize therapy and reduce excessive medications.[21,22,25–28] However, this raises another question: how to decide when a patient is being overtreated? There are currently no reliable or accurate biomarkers of response to therapy and disease progression, so the decision concerning ICS withdrawal must be based on the available objective tests and subjective instruments.[2]

Results from a recent UK Primary Care Setting retrospective study showed that, 24 months after COPD diagnosis and prescription of initial therapy, several treatment strategies are used: switch in medication, stepwise, step-up and ICS withdrawal,[28] suggesting that here is an unmet clinical need to refine therapy beyond GOLD and other international and national guidelines.

This paper discusses and proposes stepwise and ''hit hard'' therapeutic approaches for COPD patients based on their GOLD group. An alternative treatment approach, based on phenotypes, is addressed elsewhere.[29] We suggest two subgroups for GOLD A and GOLD B patients, with different therapeutic approaches. Finally, we conclude that, in COPD, therapy should be tailored to the patient, taking into consideration co-morbidities, presence of hyperinflation, history of chronic bronchitis, levels of physical activity, and each individual patient characteristics.

GOLD A patients

It is difficult to identify asymptomatic GOLD A patients with no exacerbations, given that they have no reason to seek medical help. Spirometric screening of asymptomatic individuals is not supported by evidence, although in individuals over 40 years old and with a smoking history of >10 pack years, spirometry may be performed with the aim of early diagnosis.[1] Indeed, some of these patients are identified during screenings, but many of those who are not eligible for screening (e.g., non-smokers), may remain undiagnosed.[11] Also, these patients tend to underestimate their symptoms and adapt their daily activities by exercise self-limitation,[1] hence reporting to be asymptomatic. These unidentified patients cannot receive the early treatment, which has been shown to be beneficial.[6,11,14]

Identification of GOLD A patients

Besides screening, these patients are mainly identified in four situations: (a) in clinical visits for other causes or complaints; (b) when they are subjected to tests for non-respiratory reasons; (c) in the emergency room due to an acute episode; or (d) during pre-surgery testing. Once identified, it is imperative not to lose these patients to follow-up, as they will eventually evolve to other GOLD group and therapy will have to be adjusted. A correct diagnosis is of the utmost importance, since it leads to both undertreatment and overtreatment (e.g., COPD diagnosed as asthma).

We suggest an active case-finding approach for the identification of GOLD A patients. We further propose that these patients are flagged whenever they are diagnosed and, thereafter, that they are managed by their general practitioner, in close cooperation with a pulmonologist.

Recommended therapeutic approach for GOLD A patients

Given that these patients are often excluded from Randomized Clinical Trials (RCTs), there are no systematic data available on which therapy should be used or how they will respond.[6] Should they be treated? When? With which medication and how? How will they progress with or without therapy? A study based on the ECLIPSE cohort showed that, at 3 years follow-up, 57% of patients initially assigned to GOLD A remained in the A group, whilst the remaining 43% progressed to other GOLD groups.[13] Based on this study, all GOLD A patients should receive treatment.

Current guidelines generally recommend for these patients smoking cessation, physical activity programs, and influenza and pneumococcal vaccination. Also, the use of a short-acting beta-agonist (SABA) or a short-acting