New Updated GOLD 2023 guidelines: Insights, Implications and future Directives for Clinicians

Milesh Jung Sijapati

Department of Internal Medicine, KIST Medical College & Teaching Hospital, Lalitpur, Nepal

Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide with three million deaths in 2019 and global burden of disease is expected to increase over the coming decades.[1] In context of Nepal, COPD is the most prevalent non communicable disease (NCDs) with prevalence of 11.7% in adults.[2] Despite this COPD is inadequately diagnosed and managed. Therefore, guidelines for the treatment and management of patients of COPD are published by the global initiative for chronic obstructive lung disease (GOLD) and updated annually with specific recommendations. The 2023 update published in November 2022 contain key changes for diagnosis and treatment of COPD that are anticipated to have clinical impact for patients with COPD. Moreover, updated guideline encourage treatment to be started before patients become seriously ill. Adhering to GOLD recommendations by healthcare professional may improve outcome of patients with COPD and reduce health care resource utilization (HCRU) [3,4]

The key changes in GOLD 2023 report are the definition of COPD which has been proposed as a heterogenous lung condition characterized by chronic respiratory symptom (dyspnea, cough ,sputum production) due to abnormalities of airways (bronchitis, bronchiolitis) and /or alveoli (emphysema) that cause persistent , often progressive , airflow obstruction . A new definition of COPD exacerbation (E-COPD) has been proposed and new set of parameters to assess exacerbation history has been included. ECOPD is defined as an event characterized by dyspnea and / or cough and sputum that worsens in <14 days and is often associated with increased local and systemic inflammation caused by airway infection, pollution or other insults to the lungs.[5] Additional criteria for the identification and diagnosis of patients at increased risk of developing COPD has been introduced. This depends on the patients not showing airflow limitation but have structural abnormalities, respiratory symptoms, and having physiological abnormalities. Such patients has been labeled as pre-COPD or Preserved Ratio Impaired Spirometry (PRISm), dependent on spirometry findings.[5] Smoking cessation and avoidance of risk factors are important in this group dual bronchodilator fuhas has been demonstrated to have little impact on respiratory symptoms with a smoking history .[6]

The taxonomy of COPD has been expanded to include non-smoking related etiotypes including other caused of COPD besides tobacco smoking. Nonsmoking etiotypes includes in COPD caused by genetic factors, abnormal lung development, environmental factors (Such as exposure to biomass), infection and asthma, including the impact of asthma on lung function and poor childhood lung development[5,7] Spirometry is essential for the diagnosis of COPD but remains under used and inaccessible in primary care settings.[8-10] These settings advocates use of case finding tools such as PUMA, CAPTURE, COLA-6 and LFQ to identify patients suitable for spirometric assessment.[11,12]

The prevalence of environmental pollution varies by region and/or setting, but in some regions like low middle income countries (LMIC's), non-smoking related factors contribute approximately 50% of the attributable risk for COPD.[5,13] The management of non-smoking related risk factors, including reduction of biomass exposure and air pollution, may support the reduction of COPD development and progression. The medical community should consider engaging policymakers to create system-level policies to address these risk factors, with the goal of reducing the burden of COPD on health systems.

Exacerbations are associated with an increased risk of future exacerbations and mortality. Defining ECOPD and its severity by using six variables (Intensity of dyspnea, respiratory rate, heart rate, oxygen saturation, measurement of C reactive protein and arterial blood gas) is also suggested using ROME proposal.[14] ABE initial assessment tool and revised follow up algorithms has been simplified.

Current recommendations continue to suggest that blood eosinophils are used to guide treatment decision on ICS use. There is wide variability of eosinophils in portion of patient in COPD worldwide which has been reviewed. Further education for clinicians may be required on the use of blood eosinophils for management of patients with COPD.

GOLD 23 report recognises that blood eosinophil threshold of ≥100 cells/μL and ≥300 cells/μL are not definitive cutoffs but reflect the response to ICS containing therapies. This is compatible with GOLD favoring addition of ICS to LABA if patients have eosinophils of 100-300 cells/μL. Further studies will clarify the relations of blood eosinophils and the

Corresponding author:
Dr Milesh Jung Sijapati
Professor, Department of Internal medicine, KISTMCTH
Editor In chief, NRJ
Email: mileshjung@yahoo.com

response to ICS treatment. GOLD recommends considering triple therapy including LABA+LAMA and ICS with patient of recent exacerbation and blood eosinophils ≥300 cells/μL. In addition, escalation to triple therapy is recommended if exacerbations occur in patients with blood eosinophils ≥300 cells/μL receiving monotherapy or patients with blood eosinophils ≥100 cells/μL receiving LABA + LAMA. The studies had shown that escalation of triple therapy has reduced future exacerbations, HCRU and mortality.[15]

Decision of use ICS is a careful balance of risk and benefit as the chronic use of ICS in patients with COPD is associated with increased risk of pneumonia influenced by both the dose and duration of ICS use.[16,17] Patient receiving ICS + LABA who experience major symptoms in absence of exacerbation are recommended to be switched to LABA +LAMA. However, clarification is needed for GOLD on definition of major symptoms. GOLD has increased emphasis on importance of mortality reduction as treatment goal which is supported by two large studies demonstrating benefits of triple therapy compared dual therapy (LABA+ LAMA) in patients with severe airflow obstruction and a history of exacerbations.[18,19] Nonpharmacological intervention such as smoking cessation and pulmonary rehabilitation have also been demonstrated to reduce mortality in patents with COPD.[20,21]

Updated GOLD 2023 report introduced new changes which are acceptable but still questions remain in some areas and this will guide for new potential guideline evolution in coming days. Further research is needed to explore the use of lower thresholds of blood eosinophils and exacerbation for triple therapy initiation to benefit of this treatment to a broader population. Recommendation on treatment strategies following hospital admission standardizing the use of triple therapy who has been hospitalized with exacerbation to reduce future hospitalizations as show by studies.[19,22,23] Thus this updated guideline provides simplified approach to management of COPD for the practicing clinicians with scope to further research in identification and treatment of different etiotypes , cut offs of blood eosinophil and use of triple therapy after hospitalization. Implementing this guideline will assist in diagnosing early, identifying exacerbations and severity helps to decrease mortality by using timely interventions.

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