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GOLD 2021 guidelines for COPD: what's new and why

To The Editor

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2021 report dawns with an update to the diagnostic, preventive and therapeutic strategies for Chronic obstructive pulmonary disease (COPD). Unlike the previous update [1], there are no major changes in diagnostic and treatment directives. There are however, numerous small updates which stem from over two hundred new references that have been added [2].

Epidemiology and risk factors

COPD is the third leading cause of death with over three million deaths per year. This is projected to rise in the coming years due to an increase in risk factors, advancing age of the population and an improved outcome of infections and cardiac illnesses. The risk factors have emphasized genetic factors, including matrix metalloproteinase (MMP-12), non-cigarette forms of smoking like cigars and hookah along with biomass fuel smoke exposure which is particularly relevant in developing countries like India.

COVID-19 and COPD

A separate chapter has been added on the COVID-19 pandemic, with a clear message that both diseases may coexist, but with worsened outcomes, and should be managed according to their individual guidelines without omitting any drug. Spirometry should be used only when requisite to make a diagnosis of COPD, or evaluate pulmonary function before a surgery. All patients undergoing spirometry should be tested for COVID-19. COPD patients should wear surgical masks, maintain physical distancing and continue their medications as advised. There are no contraindications to the use of corticosteroids for COPD or its exacerbation. Nebulization must be avoided to prevent exposure of health-care personnel. However, if the patient is receiving long-term nebulization, mesh nebulizers must be used only in areas with open windows and adequate ventilation. Shielding has been advocated as an easier alternative to 'lockdowns', as an effective preventive strategy. For electronic consultations of COPD patients, a checklist has been prepared along with precise instructions on its use.

Diagnosis of COPD

The post-bronchodilator FEV_1/FVC cut-off of 0.7 was retained for diagnosing COPD. It was found to be more reliable and simplistic than using the lower limit of normal (LLN) in recent studies by Bhatt and colleagues [3]. The new spirometry criteria by the American Thoracic Society and European Respiratory Society (ATS/ERS) focusing on a one-second plateau or 15 seconds of expiration, instead of 6 seconds, have been adopted. Spirometry was removed from the GOLD-ABCD assessment of COPD as it did not influence treatment decisions. However, it has been realized that even ABCD is not good at predicting mortality and outcomes. As a compromise hence, using both classifications together are required in all COPD patients. The old classification has been modified into 1A, 1B, 1C up to 4A, 4B, 4C and 4D. The precise role of this modification is unclear at present, since current treatment decisions still focus on the ABCD approach. However, decisions

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DOI: 10.5603/ARM.a2021.0015
Received: 27.11.2020

ISSN 2451–4934

on surgical approaches like bullectomy or lung transplantation require spirometry.

Management of COPD

The management of COPD in primary health centres (PHC) has been stressed on. As per the World Health Organisation (WHO)'s Package for essential non-communicable disease intervention (PEN) for PHC; certain drugs like albuterol, tiotropium and beclomethasone, spacers and peak flow meters should be present in all PHCs. A nebulizer and pulse oximeter should also be obtained, if resources permit.

The recommendations for using the inhaled route over the oral route, and long-acting over short-acting bronchodilators, have been strengthened by even more evidence. Citing the EMAX trial, the benefit of long-acting muscarinic antagonist/long-acting beta agonist (LAMA/LABA) combination in improving lung function and clinical status *vs* either therapy alone has been pointed out [4]. There is a resurgent focus on triple drug therapy (inhaled steroid/LAMA/LABA) in view of the IMPACT and ETHOS trials [5, 6]. Even though significant evidence is lacking, it is one of the few interventions, besides smoking cessation, long-term oxygen therapy and lung volume reduction surgery, which actually demonstrates a trend towards mortality-benefit in the subgroup of COPD with severe disease and recurrent exacerbations. More evidence has been found in favor of pulmonary rehabilitation, in improving exercise capacity and quality of life. Palliation of dyspnea by acupuncture and acupressure have been added to measures like chest wall vibration and administration of opiates.

Comorbidities

Further stress has been laid on management of comorbidities to improve morbidity and mortality. Over 20–70% of patients have associated systolic or diastolic heart failure. Cardioselective beta-blockers must be used in these patients as per cardiovascular indications. The post-acute exacerbation phase of COPD is marked by a higher risk of cardiovascular events, including unstable angina, myocardial infarction and stroke, for up to one month. Risk factors associated with lung cancer in COPD, including: age > 55 years, > 30 pack-years of smoking, emphysema, fixed obstruction, body mass index (BMI) < 25 kg/m^2 and a family history of lung cancer have been emphasized.

Prevention

Vaccination with pneumococcal and influenza vaccines has been suggested as per the prevalent guidelines. The Indian national guidelines recommend administering PCV-13 and PPSV-23 after the age of 50 years, since childhood vaccination with PCV-13 is not universal in India [7]. A new recommendation has been added in view of emerging evidence of two to five times increased risk of whooping cough (pertussis) in COPD. A booster dose of diphtheria, pertussis and tetanus has been recommended in those not vaccinated in adolescence according to CDC recommendation. E-cigarette and vaping-associated lung injury (EVALI) were recently attributable to vitamin E acetate in e-cigarettes. Currently, the use of e-cigarettes is discouraged.

The path ahead

The recently emphasized biomass fuel exposure-related COPD may gain greater recognition in the coming times. A large database has suggested that 65% of global COPD is non-smoking-related and this figure may be 80% for India. The GOLD stage 0 or PRISm (preserved ratio impaired spirometry) is a functional phenotype of symptomatic emphysema without fixed obstruction that needs to be addressed under the GOLD guidelines. Asthma-COPD overlap was earlier addressed in the GINA 2020 guidelines, but has failed to find importance in the GOLD 2021 document. There is limited benefit of mepolizumab or benralizumab in eosinophilic COPD. However, the GOLD 2021 acknowledges the difference to be statistically not significant and not related to severity of COPD or recurrent exacerbations. Impulse oscillometry for diagnosis, extrafine particle inhaler for treatment, and prolonged pharmacological therapy for smoking cessation are other emerging entities which need to be discussed in future GOLD documents.

Conflict of interest

None declared.

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