Current Approaches to COPD in 2019

Chronic Obstructive Pulmonary Disease (COPD) remains the fourth leading cause of chronic morbidity and mortality at the global level, and it represents a major problem for public health. The burden of COPD is likely to increase over the next several years. Some authors have predicted that the prevalence of COPD will continuously increase, and that it will become the third leading cause of death by 2020.

COPD is currently regarded as a multisystemic disease with a clinical presentation that often resembles other pulmonary conditions like asthma, bronchiectasis, obstructive sleep apnea and alpha-1 antitrypsin deficiency [1].

Respiratory acidosis caused by acute exacerbation of COPD is a very complex and common situation in respiratory medicine. In majority of cases, the presence of extrapulmonary comorbidities makes the exacerbations even more challenging because there elevate the risk of mortality and length of stay at hospital of COPD patients [2].

The main pathogenic mechanisms of COPD are systemic inflammation and oxidative stress which also induce the development of comorbidities. COPD increases the risk for multiple comorbidities and they, in turn, has a negative impact on health related quality of life, thereby influencing mortality in COPD patients negatively. Proper assessment and therapy of comorbidities may have a beneficial effect on the natural course and progression of COPD [3].

COPD is being increasingly recognized as a risk factor for the development of type2 diabetes through complex mechanisms including inflammation, obesity, hypoxia and use of inhaled or systemic corticosteroids. In addition, hyperglycemia in diabetes patients is linked to the adverse impact on lung physiology, and a possible increase in the risk of COPD [4].

The severity of COPD poses a great challenge in the surgical management of lung cancer with curative intent with implications in disease recurrence, survival and postoperative course [5].

The clinical value of FENO in COPD is less evident in comparison with asthma, but some studies suggest that it may be a new marker of the eosinophilic endotype. More importantly, mathematical methods allow investigation of the alveolar and small airway production of NO which potentially better characterize inflammatory changes in anatomical sites, most affected by COPD [6].

Triple inhaled therapy for COPD includes an inhaled corticosteroid (ICS), a long-acting b2-agonist (LABA) and a long-acting muscarinic antagonist (LAMA) taken in combination. In recent studies, it was demonstrated that triple therapy is significantly more effective in reducing the rate of moderate or severe COPD exacerbations compared to dual combinations of LABA/LAMA or ICS/LABA and to monotherapy with LAMA [7].

The benefit of non-invasive ventilation (NIV) in stable COPD remains controversial. However, there is increasingly more evidence of NIV efficiency, especially high-flow NIV [8].

Bronchoscopic lung volume reduction techniques in COPD patients are targeted to reduce hyperinflation. The efficacy of reversible valve implantation has been confirmed in several recent randomized controlled trials. It provides major clinical benefit in the absence of interlobar collateral ventilation [9].

This hot-topic issue of Current Respiratory Medicine Reviews is an update on the diagnosis, assessment and management of patients with COPD.

REFERENCES


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