Acute exacerbations of chronic obstructive pulmonary disease provide a unique opportunity to *take care* of patients

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ABSTRACT

Exacerbation of chronic obstructive pulmonary disease (ECOPD) identifies the acute phase of COPD. The COPD patient is often frail and elderly with concomitant chronic diseases. This requires the physician not only looks at specific symptoms or organs, but to consider the patient in all his or her complexity.

Comment to *Management of exacerbations of chronic obstructive pulmonary disease with a focus on comorbidities* by Jadwiga A. Wedzicha

The term exacerbation of chronic obstructive pulmonary disease (ECOPD) identifies the acute phase of COPD, *i.e.* the presentation of symptoms due to the worsening of the characteristic chronic airway and/or pulmonary inflammation associated with the disease.[1] Events that fall within the term ECOPD are, for example, viral or bacterial respiratory infections during which the inflammatory process triggered by the infection overlaps with the chronic inflammation and results in a worsening of the typical symptoms of COPD, *i.e.* dyspnea, cough, and sputum. Mechanisms are stimulation of nerve reflexes, bronchial and vascular congestion, purulent secretions, bronchoconstriction, and alteration of the ventilation/perfusion interaction in the lung.[2]

In a short but concise and comprehensive review on ECOPD published in this issue of the Journal,[3] Prof. Wedzicha, one of the most influent experts on COPD, describes the complexity not only of the ECOPD but also of the COPD patient. In fact, the COPD patient often suffers from concomitant chronic diseases, both respiratory (*e.g.* asthma, bronchiectasis, pulmonary fibrosis, etc.) and non-respiratory (hypertension, heart failure, ischemic heart disease, arrhythmia, gastroesophageal reflux, obesity, dyslipidemia, arteriosclerosis, osteoporosis, diabetes, depression, etc.).

Patients with COPD and concomitant chronic diseases are often elderly and frail, and are frequently at higher risk both of acute newly developed episodes (bronchitis, pneumonia, pulmonary embolism, pneumothorax, etc.) and of worsening of concomitant chronic disease (*e.g.* asthma and/or bronchiectasis exacerbation, hypertension, heart failure, myocardial ischemia, heart infarction, etc.).[4] Prof. Wedzicha recommends that physicians and medical staff should always consider these complex issues when visiting and treating patients with ECOPD. A useful example that emphasizes the importance of this comprehensive approach comes from a recent study of the Federation of Associations of Hospital Doctors on Internal Medicine (FADOI) conducted in emergency units located in Lombardy, northern Italy, and reported in our Journal.[5] This study showed that, in COPD patients coming to the emergency unit with worsening dyspnea, the cause was primarily due to heart failure, not to acute bronchitis.[5]

The conclusions of Prof. Wedzicha's review are both novel and of importance: i) in most cases, ECOPD may not be just an exacerbation of COPD, but the result of the complex interaction between respiratory and non-respiratory mechanisms; ii) considering this complexity, the expression *ECOPD* seems

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to be more and more restrictive, and a new terminology that also reflects complexity and severity should be developed; iii) the complexity of the involved mechanism leads us to believe that the treatment for ECOPD recommended by current guidelines[1] (bronchodilators, steroids, antibiotics) only focuses on relieving respiratory symptoms. It seems that treatment is very limited and probably only marginally effective, and that a more comprehensive treatment should be provided to address potential concomitant non-respiratory components (*e.g.* heart failure, thromboembolisms, etc.).

COPD exacerbations that lead to hospitalization have a poor prognosisis,[6] with 28% risk of death in one year and 80% in nine years.[7,8] The most frequent causes of death in patients with ECOPD are pulmonary embolism, heart failure, respiratory infections and respiratory failure.[9,10]

It is possible that, as happened in patients with myocardial infarction, a new comprehensive pharmacological and non-pharmacological treatment and its early application might improve the prognosis of ECOPD. This would only be possible if we not only look at specific symptoms or organs, but consider the patient in all his or her complexity.

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