



Editorial

Exacerbations of COPD and Radiological Condensation: Three Controversial Questions[☆]

Agudizaciones de la enfermedad pulmonar obstructiva crónica y condensación radiológica: tres preguntas controvertidas

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Exacerbations of chronic obstructive pulmonary disease (COPD) are important because they have an impact on morbidity, mortality and healthcare costs. So far the diagnosis and treatment of exacerbations remains relatively homogeneous rules that apply equally to all exacerbations are based on bronchodilators, systemic corticosteroids and antibiotics as pillars of treatment.¹ However, as with the expression of the disease in the stable phase, exacerbations have a rich and different clinical expression with different subtypes being identified with prognostic implications.² In this context, the presence of pulmonary consolidation in a patient with an exacerbation of COPD is a subject of ongoing controversy.

According to previous guides,³ the community-acquired pneumonia was included among the causes of exacerbation in the past. However, currently, it is considered an infectious comorbidity, clearly distinct from an exacerbation.¹ In this regard, several questions can be identified. If we consider that the 2 processes are completely different, then does the exacerbation of COPD have distinguishing features compared to community-acquired pneumonia?

In the present issue of Archivos de Bronconeumología, Boixeda et al.⁴ analysed a group of 124 patients with COPD requiring hospital admission for lower respiratory tract infection, comparing those with pulmonary condensation versus those without. With the cautiousness derived from an observational study with some imbalance between groups and the limitations of a bivariate analysis, the authors find differences between the 2 conditions in various clinical and laboratory parameters. Interestingly, the yield of sputum culture is similar in both process and the outcome too. The acute phase reactants such as C-reactive protein, the serum alpha 1 band in the proteinogram or fibrinogen are highly increased in

patients with radiologic consolidation. Accordingly, other studies have also identified several biomarkers increased to differentiate both processes.⁵

In light of this and similar previous studies,⁵ it appears that both processes have some differences. Following reflection derived from the study by Boixeda et al.,⁴ the current idea is that both processes are different and that a patient with increased respiratory symptoms and radiologic consolidation should be diagnosed with pneumonia. However, due to the variability of the clinical expression of the exacerbation, can an exacerbation of COPD present a radiologic consolidation as part of their clinical presentation? The study European COPD Audit, a clinical audit conducted in 13 European countries to assess the quality of care for patients who were discharged with a principal diagnosis of COPD exacerbation, the authors found that 18.5% of these cases diagnosed of COPD exacerbations after a specialized hospital care had a radiological condensation upon admission.⁶ Similarly, previous works have found these condensations in patients with a diagnosis of COPD exacerbations, especially with computed tomographies,⁷ with an impact on prognosis.⁸ The distinction of the infectious nature of an exacerbation of COPD seems key from a clinical perspective and current guidelines emphasize the appearance of purulent sputum as a diagnostic marker.¹ However, there is still controversy about the meaning of these consolidations in patients with COPD exacerbations and whether these condensations represent a distinct clinical entity of pneumonia in a patient with COPD.

To complete the discussion, it is known that patients with COPD are at increased risk for episodes of acute infectious bronchitis generally considered as having COPD exacerbations with antibiotics having a prominent role in their treatment.¹ However, bacterial pneumonia infection differentiates from an acute bronchitis in the site of infection. Therefore, though currently accepted that acute bronchial infection can be considered as a cause of an exacerbation of COPD, then why a more distally localized, in the distal airway or the parenchyma, infection should not be?⁹ In this regard, an interesting example is provided by inhaled steroids, which reduce the number of exacerbations, but in turn increase the number of pneumonia.¹⁰ The association between COPD

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exacerbations and radiological condensation is therefore a source of current controversy. In the future, we should advance in the better characterization of exacerbations of COPD that allows us to better define and understand these events allowing us for a more personalized treatment.

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