



Editorial

Establishing the Prognosis of COPD Exacerbations Using Risk Scales from the Point of View of the Emergency Department[☆]



Establecer el pronóstico de la agudización de EPOC mediante el uso de escalas de riesgo: punto de vista del servicio de urgencias

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Chronic obstructive pulmonary disease (COPD) is one of the main causes of morbidity and mortality worldwide. COPD exacerbations accelerate lung function decline, increase the risk of future exacerbations, and worsen quality of life.¹ Hospital admissions for COPD exacerbations are also associated with increased mortality and incidence of adverse events that impact negatively on the prognosis of these patients.^{2,3} In Spain, 2% of COPD exacerbations involve visits to the hospital emergency department (ED), account for 10% of admissions, and represent the fifth leading cause of death.⁴ The first medical contact and most admissions for COPD exacerbations usually occur in the ED. Treatment goals in COPD exacerbation are to minimize its impact on patient quality of life and reduce the incidence of adverse events. However, in EDs with a high volume of visits, patients have a greater likelihood of being inappropriately discharged, leading to poor outcomes in the following weeks.^{5,6} Although the GOLD guidelines specify a number of indicators for admission, discharge criteria, and follow-up recommendations,¹ the management and quality of care provided to patients with COPD exacerbations varies from one ED to another.⁷ The decision to admit or discharge is often taken on the basis of clinical criteria identified in the ED or established by the treating physician. If the COPD exacerbation is actively treated in the ED, the symptoms of some patients improve and they can be discharged; a percentage of these patients return to the ED in the following days and weeks for different causes: new exacerbations, inappropriate treatment, inability to manage symptoms, infections, or re-exposure to environmental triggers.⁸ Some factors predicting relapse after discharge from the ED may be age, the presence of comorbidities, the degree of dyspnea and tachycardia, the prescription of certain drugs, and the performance of additional tests, serving as markers of severe respiratory illness

or identifying a clinical impression of respiratory failure.^{6,9} Consequently, the therapeutic approach to COPD exacerbations must consider the characteristics of the patient, the characteristics of the exacerbation, and the possibility of unfavorable progress despite the right treatment.

Several authors have developed and validated a series of risk stratification scales for COPD exacerbations in the ED, which help in therapeutic management, decision-making regarding admission or discharge, and the planning of care. García Gutiérrez et al.⁴ propose a prognostic scale with 4 risk levels to assess the severity of the COPD exacerbation, based on variables that can be easily determined in the ED: pH, PCO₂, paradoxical breathing, and use of accessory muscles. This scale can identify patients with more probability of dying or developing complications in the first week, regardless of whether they have been admitted or discharged from the ED. Although it has not been clinically validated, this scale was used to good effect to measure the severity of the COPD exacerbation and to assess the need for admission in subsequent studies.^{3,10} The COPD Assessment Test (CAT) was created in 2009 to assess quality of life in patients with COPD. It consists of 8 items (cough, expectoration, chest tightness, dyspnea, limitation in performing domestic tasks, problems sleeping, problems leaving the house due to dyspnea, energy) with a score of 0–5. The higher the score, the greater the impact of COPD. Pulido Herrero et al.¹¹ studied the usefulness of this questionnaire to predict short-term adverse events in patients with COPD exacerbations seen in the ED, concluding that it might be useful for predicting admission and return visits to the ED in the first 2 months after the initial visit for exacerbation. The same authors, in a more recent article, propose the CAT score on the day before the ED visit as a method for assessing the baseline situation of the patient and monitoring their recovery after an exacerbation.¹⁰ They also suggest that the CAT score, if used in combination with other scales, could be a predictor of poor outcome, although their study did not obtain any conclusive results in this respect. The DECAF-5 score, created on the basis of variables available in the ED (dyspnea, eosinopenia, consolidation, acidosis, and atrial fibrillation), predicts mortality in hospitalized patients.¹² However, it is also useful for identifying patients at

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low risk (DECAF 0–1), who might benefit from alternatives to conventional hospitalization, such as hospital-at-home schemes or discharge with follow-up and monitoring by the primary care team. Finally, the Ottawa COPD Risk Scale (OCRS) consists of 10 items easily obtained from the clinical history (coronary bypass, intervention for peripheral vascular disease, intubation for respiratory distress), and the examination and complementary tests performed in the ED (heart rate, ischemic changes on ECG, signs of pulmonary edema on chest X-ray, hemoglobin, urea, PCO₂, and saturation O₂).¹³ It can be used to assess the risk of death at 30 days or the appearance of serious adverse events in the first 2 weeks after the visit to the ED, helping reduce the number of unnecessary and inappropriate discharges from the ED in patients with COPD exacerbations.

The severity scales proposed here are accessible, cost-effective options that are easy to use¹³ and capable of objectively identifying patients at risk of an unfavorable outcome. If the short-term prognosis of the COPD exacerbation can be ascertained, clinical management can be improved and the unit where the patient should be admitted can be determined. As in certain time-dependent diseases (stroke, sepsis, acute coronary syndrome, etc.), the emergency doctor must work with other specialists to develop management strategies and consensus protocols for the care of COPD exacerbations, thus helping to improve patients' quality of life and the efficiency of the healthcare system.

The multidimensional assessment of patients with COPD exacerbations and the implementation of scales in the decision-making process could improve the quality of care without compromising patient safety. In this respect, the ED can play a useful role in reducing readmissions by identifying patients who may be discharged without risk.

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