



Original Article

Treatment With Systemic Steroids in Severe Chronic Obstructive Pulmonary Disease Exacerbations: Use of Short Regimens in Routine Clinical Practice and Their Impact on Hospital Stay[☆]

Pedro J. Marcos,^{a,*} Irene Nieto-Codesido,^a Santiago de Jorge Domínguez-Pazos,^a Arturo Huerta,^b Eduardo Márquez,^c Alejandro Maiso,^a Rodrigo Verdeal,^d Isabel Otero-González,^a Marina Blanco-Aparicio,^a Carmen Montero-Martínez^a

^a Servicio de Neumología, Instituto de Investigación Biomédica de A Coruña (INIBIC), Complejo Hospitalario Universitario de A Coruña (CHUAC) Sergas Universidade da Coruña (UDC), As Xubias, A Coruña, Spain

^b Servicio de Neumología, Institut Clínic del Tòrax Hospital Clínic-IDIBAPS CIBER de Respiratorio, Universidad de Barcelona, Barcelona, Spain

^c Unidad Médico-Quirúrgica de Enfermedades Respiratorias, Hospital Universitario Virgen del Rocío, Sevilla, Spain

^d Servicio de Medicina Interna, Instituto de Investigación Biomédica de A Coruña (INIBIC) Complejo Hospitalario Universitario de A Coruña (CHUAC) Sergas Universidade da Coruña (UDC), As Xubias, A Coruña, Spain

ARTICLE INFO

Article history:

Received 18 January 2017

Accepted 22 March 2017

Available online xxx

Keywords:

Chronic obstructive pulmonary disease

Exacerbation

Steroids

Length of hospital stay

Hospitalization

ABSTRACT

Introduction: It is not known whether clinical practice guidelines for the treatment of COPD exacerbations with short courses of systemic corticosteroids (SC-SCS) are followed in clinical practice.

Method: Prospective, observational cohort study in patients admitted due to severe COPD exacerbation. The primary endpoint was the percentage of patients who received SC-SCS as treatment for severe exacerbation (doses of 200–300 mg for 5–6 days). Secondary variables were percentage of patients with duration or reduced dose, dose in the first 24 h, days of intravenous systemic corticosteroids (SCS), and duration of hospital length of stay (LOS). Simple linear regression was performed with LOS as a dependent variable and multivariate analysis with factors associated with LOS.

Results: 158 patients were evaluated. 4.4% (7) patients received SC-SCS, 8.7% received a reduced dose and duration was reduced in 15.8%. The median dose and duration of SCS were 602.5 mg (200–1625) and 14 (4–36) days, respectively. We observed an association between days of SCS and LOS ($P < .001$) and doses of intrahospital SCS and LOS ($P < .001$). Factors associated with LOS were doses of intrahospital SCS received (0.01 [95% CI: 0.007–0.013]; $P < .001$), days of steroid treatment (0.14 [95% CI: 0.03–0.25], $P = .009$) and PAFI (pO_2/FiO_2 ratio) at admission (-0.012 [95% CI: -0.012 to -0.002], $P = .015$).

Conclusions: The SCS schedules used in routine clinical practice are longer and administered at a higher dose than recommended, leading to a longer hospital stay.

© 2017 SEPAR. Published by Elsevier España, S.L.U. All rights reserved.

Tratamiento con esteroides sistémicos en agudización grave de enfermedad pulmonar obstructiva crónica: empleo de pautas cortas en práctica clínica habitual y relación con la estancia hospitalaria

RESUMEN

Introducción: Se desconoce si en la práctica clínica habitual se siguen las recomendaciones de las guías de práctica clínica con respecto al tratamiento de las exacerbaciones de la EPOC con pautas cortas (PC) de corticosteroides sistémicos (CS).

Método: Estudio de cohortes, prospectivo y observacional en pacientes que ingresan por una agudización grave de su EPOC. La variable principal fue porcentaje de pacientes que recibían PC de CS como tratamiento

Palabras clave:

Enfermedad pulmonar obstructiva crónica

Agudización

Esteroides

Estancia hospitalaria

Hospitalización

[☆] Please cite this article as: Marcos PJ, Nieto-Codesido I, de Jorge Domínguez-Pazos S, Huerta A, Márquez E, Maiso A, et al. Tratamiento con esteroides sistémicos en agudización grave de enfermedad pulmonar obstructiva crónica: empleo de pautas cortas en práctica clínica habitual y relación con la estancia hospitalaria. Arch Bronconeumol. 2017. <http://dx.doi.org/10.1016/j.arbres.2017.03.012>

* Corresponding author.

E-mail address: pedro.jorge.marcos.rodriguez@sergas.es (P.J. Marcos).

en la exacerbación grave (dosis acumulada total de 200 a 300 mg y una duración de 5-6 días). Las variables secundarias fueron porcentaje de pacientes con duración o dosis corta, dosis en las primeras 24 horas, días de CS intravenosos y duración de la estancia hospitalaria (EH). Se realizó regresión lineal simple con días de estancia hospitalaria como variable dependiente y análisis multivariante con factores asociados a estancia hospitalaria.

Resultados: Se evaluaron 158 pacientes; 4,4% (7) pacientes recibieron una PC de CS. El 8,7% recibió un tratamiento corto y el 15,8% una duración reducida. La mediana de dosis y duración de CS fue 602,5 mg (rango intercuartílico: 430-850) y 14 (rango intercuartílico: 4-36) días respectivamente. Observamos asociación entre más días de CS y una mayor EH ($p < 0,001$) y una mayor dosis de CS intrahospitalaria e incremento de EH ($p < 0,001$). Los factores asociados con EH fueron dosis de CS intrahospitalaria recibida (0,01 [IC 95%: 0,007-0,013]; $p < 0,001$), días de tratamiento esteroideo (0,14 [IC 95%: 0,03-0,25]; $p = 0,009$) y PAFI (cociente pO_2/FiO_2) al ingreso (-0,012 [IC 95%: -0,012 a -0,002]; $p = 0,015$).

Conclusiones: Las pautas de CS empleadas en la práctica clínica habitual son más prolongadas y a una mayor dosis que las recomendadas, asociando una mayor estancia hospitalaria.

© 2017 SEPAR. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

The natural history of chronic obstructive pulmonary disease (COPD) is characterized by intermittent episodes of exacerbation. Exacerbations are associated with an accelerated loss of lung function,¹ poorer quality of life² and greater mortality,³ associated mainly with more severe exacerbations requiring hospitalization.⁴ Optimal management of severe exacerbations is essential if prognosis is to improve. Hospital treatment of COPD exacerbations (COPDE) includes the use of oxygen, antibiotics, bronchodilators, and systemic corticosteroids (SCS). SCS are useful for improving lung function and symptoms, improving the 30-day treatment failures rate, and reducing hospital stay.⁵ However, no benefit in terms of mortality has been demonstrated, and the use of SCS is associated with increased side effects, the most frequent being hyperglycemia.⁵

At present, almost all COPD clinical management guidelines recommend the use of SCS in severe exacerbations. However, the recommendations vary to some extent in terms of the appropriate dose and duration of treatment. Thus, while the GOLD 2013⁶ guidelines recommended 30–40 mg prednisone daily for 10–14 days, the NICE guidelines⁷ proposed a slightly shorter duration (7–14 days), and the 2012 edition of the Spanish COPD guidelines⁸ recommended treatment with oral prednisone 0.5 mg/kg/day or equivalent until clinical improvement, with suspension of the treatment as soon as possible, preferably before 7–10 days. Following publication of the REDUCE study,⁹ a randomized clinical trial which showed that a 5-day regimen produced similar rates of new exacerbations at 6 months, similar mortality and less exposure to corticosteroids as a 14-day regimen (37.2% versus 38.4%; $P=NS$), GOLD 2014⁶ included a recommendation for a 5-day course of 40 mg prednisone/day, and repeated the same recommendation in the recent update.¹⁰ The Spanish COPD guidelines updated in 2014¹¹ include the REDUCE data, and support the use of short 5-day courses, but only in exacerbations which do not require hospitalization, even though over 90% of the patients included in the REDUCE study were hospitalized.¹²

Despite these recommendations, very little is known about the patterns of use of corticosteroids (dose and duration) in routine clinical practice. Our hypothesis is that, in the real world, practices vary widely, and the dose and duration of SCS are usually greater than those recommended in the clinical guidelines, and that this may impact on the duration of hospital stay.

Materials and Methods

Study Design and Participants

This was a prospective, observational cohort study in patients seen in a tertiary hospital (Hospital Universitario de A Coruña), with a catchment area of 540 000 inhabitants. The study was conducted between 1 July 2013 and 1 August 2015, and was approved by the Galician Clinical Research Ethics Committee (CREC).

We included patients older than 40 years, with a history of smoking, COPD diagnosis prior to admission defined according to the GOLD criteria ($FEV_1/FVC < 0.7$ post-bronchodilator), and a diagnosis of COPDE. Patients who were taking chronic SCS were excluded, as were those who did not receive SCS during hospitalization, and those with no history of smoking. Only the first admission was analyzed among patients who were readmitted.

Objectives

The primary study objective was to determine the percentage of patients receiving short course of SCS in the treatment of acute COPDE. A short course was defined as a cumulative dose 200–300 mg prednisone or equivalent over 5–6 days. Secondary variables were the percentage of patients with a SCS duration of 5–6 days, percentage of patients with a cumulative dose of 200–300 mg prednisone, dose given in the first 24 h, days of intravenous SCS, and duration of hospital stay.

Data Collection

Patients were seen by the usual medical team in each department, and data were collected by the investigators. Data were collected from patients admitted to the respiratory medicine hospital ward and to one of the internal medicine wards. Demographic (age, sex, smoking status, and immunizations), laboratory and clinical data were collected from the patients. Comorbidities were assessed and the Charlson index was calculated. Functional status was evaluated using the Barthel index. COPD severity was determined from spirometric values, baseline dyspnea scale (mMRC), COPD assessment test (CAT), and exacerbation history. The severity of the current episode was assessed by calculating dyspnea, eosinopenia, consolidation, acidosis, and atrial fibrillation. Treatments received by all patients were recorded. With regard to SCS,

Download English Version:

<https://daneshyari.com/en/article/8819443>

Download Persian Version:

<https://daneshyari.com/article/8819443>

[Daneshyari.com](https://daneshyari.com)