Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

suspicion of temperature <28 °C is confirmed, the patient should be transferred to a hospital with ECMO technology[5]. The findings of studies performed so far are inconsistent when different measurement sites are compared. Under controlled environmental conditions, bladder temperature correlates well with core temperature, followed by rectal and epitympanic temperature using a thermistor probe[6]. In light of the limited amount of evidence available, and given the reliability, clinical context, consistent measurements over a wide range of temperatures in adverse environmental conditions, and ease of use, we recommend using an epitympanic probe to measure temperature in non-intubated trauma patients[7].

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R. Blasco Mariño[a,*], I. Soteras Martínez[b]

[a] *Departamento de Anestesiología, Hospital Universitario Vall d'Hebron, Barcelona, Spain*
[b] *Departamento de Medicina, Universidad de Gerona, Gerona, Spain*

* Corresponding author.
E-mail address: roblasc.rb@gmail.com (R. Blasco Mariño).

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Impact of corticosteroid therapy on the survival of critical COVID-19 patients admitted into an intensive care unit☆

Impacto de la terapia con corticoides en la supervivencia de los pacientes críticos con COVID-19 ingresados en una unidad de cuidados intensivos

The potential benefit of corticosteroids in the treatment of sepsis or acute respiratory distress syndrome has been evaluated in numerous clinical trials, but their effect on mortality remains controversial. Villar et al. recently demonstrated the efficacy of dexamethasone in patients with acute respiratory distress syndrome of various causes[1].

Most early studies in corticosteroids for COVID-19 in the context of the current pandemic have been of low quality. However, data from the RECOVERY trial[2] boosted confidence in the positive effect of corticosteroids on mortality in COVID-19 patients who require mechanical ventilation.

In light of these findings, we conducted a retrospective study of all patients admitted to our ICU for SARS-CoV-2 between 15 March and 5 December 2020 in order to analyse the impact of corticosteroid treatment on short-term survival (28 days). Corticosteroid use was recorded as a binary variable (yes or no) if patients received at least 40 mg of methylprednisolone or its equivalent over a period of at least 5 days for the purpose of treating inflammation associated with viral pneumonia.

We performed a descriptive analysis of the sample, followed by a 28-day Kaplan–Meier survival analysis using the time to death variable. Both survival curves were compared using the log-rank test.

A total of 254 patients were admitted over the study period. Twenty-eight patients with unconfirmed SARS-CoV-2 were excluded from the study, leaving 228 patients for analysis, of whom 122 received corticosteroid treatment and 106 did not.

The patients who received corticosteroid treatment were older (difference of 4 years; 95% CI: 0.47–7.53; $p = 0.02$) and had a higher body mass index ($p = 0.03$). No differences were found between groups in terms of baseline PaO_2/FiO_2 ($p = 0.34$) or in the need for mechanical ventilation during ICU stay.

The use of corticosteroids during ICU stay was associated with a significantly greater probability of survival at 28 days (HR: 1.8; 95% CI: 1.04–3.2).

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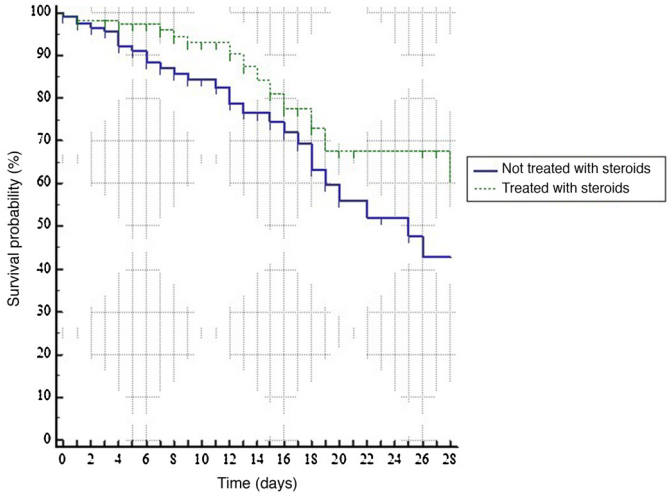

Figure 1 Survival curve (Kaplan–Meier) showing 28-day survival in the study groups.
The dashed line shows patients treated with corticosteroid therapy. The solid line shows survival in patients not treated with corticosteroids.

Finally, the Kaplan–Meier survival curve showed statistically significant greater 28-day survival (log-rank $p = 0.0345$) in the group of patients who received corticosteroid treatment (Fig. 1).

During this pandemic, many patients have received a wide variety of experimental therapies in all manner of combinations, often with minimal scientific evidence for their efficacy, and in such a haphazard fashion that any evaluation of their effect is difficult. The situation, according to some authors, has led to doctors squandering decades of progress in evidence-based medicine out of a desperate desire to ''do something'' to tackle a new challenge.

The open-label, randomized RECOVERY trial in over 2000 patients treated with corticosteroids vs. over 4000 patients who received standard treatment is one of the most robust studies in the potential impact of corticosteroids on the evolution of patients with SARS-CoV-2 infection. The results showed, among other things, that dexamethasone (6 mg daily) significantly reduced mortality in patients on mechanical ventilation, but not in patients with no respiratory failure. Despite the questionable methodology used, the results precipitated the announcement that corticosteroids were the standard treatment for COVID-19[3].

However, a recent meta-analysis (with pooled data from 7 studies) reported that the positive effect on mortality disappeared when data from the RECOVERY trial were excluded, indicating that these data were overweighted in the meta-analysis[4]. Clearly, due to the heterogeneity of the trials performed to date (compounds, dose, patient severity, time of administration, etc.), the results published must be interpreted with caution.

Therefore, although our data show better survival in patients treated with corticosteroids, more powerful studies are needed to clarify which patients will benefit most from this therapy. The administration of corticosteroids can be harmful, insofar as they appear to delay viral shedding and promote superinfections and hyperglycemia[5].

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Conflict of interests

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A. González-Castro*, E. Cuenca Fito, A. Fernández, P. Escudero Acha, J.C. Rodríguez Borregán, Y. Peñasco

Servicio de Medicina Intensiva, Hospital Universitario Marqués de Valdecilla, Santander, Spain

*Corresponding author.
E-mail address: jandro120475@hotmail.com (A. González-Castro).

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