

Title	Summary of evidence: Use of corticosteroids in people with COVID-19
Identification Code	03192020LB
Applicant Area	COVID-19. Keralty Public Health Crisis Committee
Name	COVID-19. Keralty Public Health Crisis Committee
Date of Response	19 03 2020
Update Date	20 04 2020

Question:

1. Is the use of corticosteroids indicated as adjuvant therapy for the treatment of adult patients hospitalized for respiratory infection COVID-19?

Methodology:

A Rapid Systematic Review was performed (Handbook of Rapid Systematic Reviews. Global Institute of Clinical Excellence. 2019).

Search Terms: COVID 19, corticosteroids, glucocorticoids

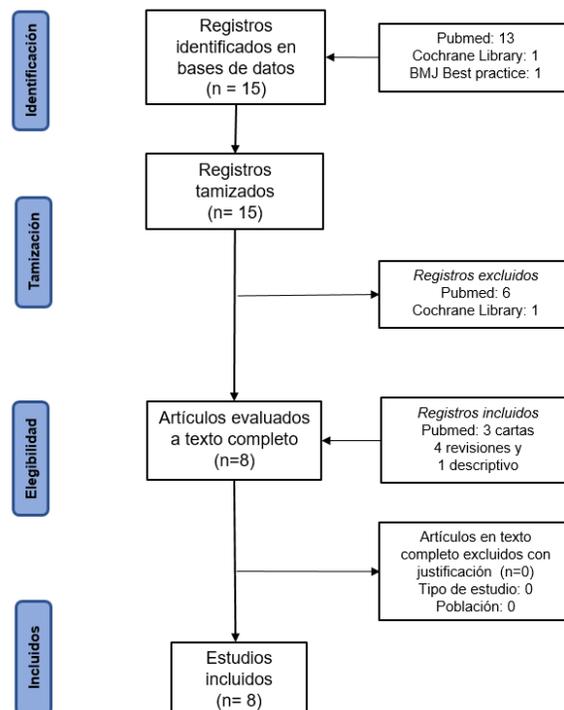
Types of Study: Clinical Practice Guidelines (CPG), systematic literature reviews (SRL), meta-analyzes, clinical trials, and other primary studies.

Information Sources: Pubmed, Cochrane Library, BMJ Best practice.

Background: The role of corticosteroids for the treatment of severe viral respiratory infections is controversial regarding the risks and benefits in critically ill adult patients. A Cochrane Systematic Review (SR) from February 2019 that included 21 observational studies found that adjuvant corticosteroid therapy is associated with increased mortality in influenza patients. However, the evidence was of very low quality and insufficient to determine the effectiveness of corticosteroids in these patients (1). Corticosteroids have recently been used in some patients with COVID-19 with ineffective results and are not recommended (2). WHO (as well as other international pneumonia guidelines) do not routinely recommend systemic corticosteroids for the treatment of viral pneumonia or acute respiratory distress syndrome unless otherwise indicated (2). A randomized clinical trial investigating the use of corticosteroids in patients with COVID-19 is currently in progress (3).

Summary of evidence:

1. Characteristics of the evidence:
15 documents were studied, out of which 7 studies were excluded (4 for not including the population, 2 for not including the intervention studied, including a systematic review, and an RCT protocol). The remaining 8 documents were reviewed in full text (three letters to the editor, four reviews and a descriptive study) (2,4-10).



IMAGE

Identification: identified registrations in databases (n=15) Pubmed: 13 Cochrane Library: 1 BMJ Best Practice: 1.

Screening: Screened registrations (n=15)

Excluded registrations: Pubmed: 6 Cochrane Library:1

Eligibility: Evaluated articles at complete text: Included Registrations Pubmed: 3 letters, 4 revisions and 1 descriptive.

Included: Included Studies (n=8) Articles on complete texts excluded with justification (n=0)

Type of study: 0

Population: 0

Findings:

- The evidence available so far regarding the use of corticosteroids in patients with COVID-19 is controversial.
- Several authors agree not to recommend corticosteroids in the treatment of patients with mild or early stage COVID-19 because the early application of corticosteroids could delay the elimination of the virus and increase the risk of mortality.

- The Chinese Thoracic Society consensus of February 2020 suggests following the next 4 basic principles for using corticosteroids in critically ill patients with 2019-nCoV pneumonia:
 1. The benefits and harms must be carefully weighed before using corticosteroids;
 2. Corticosteroids should be used with caution in critically ill patients with 2019-nCoV pneumonia;
 3. For patients with hypoxemia due to underlying diseases or who regularly use corticosteroids for chronic diseases, the additional use of corticosteroids should be cautious;
 4. The dose should be low to moderate ($\leq 0.5\text{--}1$ mg / kg per day of methylprednisolone or equivalent) and the duration should be short (≤ 7 days).

Having discussed the present findings with leaders of the Global Commission of Critical Care Keralty, taking into account the current state of the evidence, the following recommendations are proposed on the use of corticosteroids in adult patients with COVID-19 hospitalized in ICU:

Recommendations experts:

1. In adult patients hospitalized in the ICU with COVID-19 and with ARDS (Adult Respiratory Distress Syndrome) in an early phase, it is suggested not to use systemic corticosteroids because they may increase the risk of mortality (11).
2. In adult patients hospitalized in the ICU with COVID-19 and ARDS (Adult Respiratory Distress Syndrome) in late phase with pathological fibroproliferative response and without bacterial infection, the option of using systemic corticosteroids is left to the consideration of the clinical team. In such a case, it is suggested to start with methylprednisolone infusion at a dose of $0.5\text{--}1$ mg / kg / day for 7 to 14 days (5,11,12).

Clarification note: This document is supported by the evidence available to date, which may change according to the generation of new knowledge.

Update of April 20, 2020

According to the review of the Iberoamerican Cochrane Center, published on April 8, 2020 "There are no reliable studies that have evaluated the efficacy and safety of corticosteroids in patients with COVID-19.

Available data from studies in patients affected by other viral infections are conflicting and in some cases subject to multiple biases, although many note that treatment may produce various unwanted effects in patients.

Despite these data, some scientific societies have defined situations in which to use corticosteroid treatment to alleviate the uncontrolled inflammatory response caused by the virus, although in no case is there unanimity in their proposals. ” (13)

In conclusion, the update made does not modify the recommendations previously issued in this summary of evidence.

References:

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