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**Low dose corticosteroids in COVID-19 with refractory shock: We are not sure?**

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**Abstract**

Low dose corticosteroids to adult patients with coronavirus disease 2019 (COVID-19) and refractory shock was given some evidence, the evidence was of low quality given particularly for shock-reversal. Evidence. However bacterial sepsis may not provide a similar evidence like in a viral related one. We think that suggesting steroids for COVID-19 may not be adequate in the current time and future data analysis should be directed to find possible evidence in a matched population

**Key words:** Corticosteroids; Sepsis; Shock; COVID-19; Refractory; Outcome

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**Core tip:** We think that suggesting steroids for coronavirus disease 2019 may not be adequate in the current time and future data analysis should be directed to find possible evidence in a matched population.

**INTRODUCTION**

 With great interest we followed the recent guidelines for managing critically ill adult patients with coronavirus disease 2019 (COVID-19) that was released from the Surviving Sepsis Campaign. The writing group gave a weak recommendation for giving low dose corticosteroids to adult patients with COVID-19 and refractory shock, the evidence was of low quality given particularly for shock-reversal[1]. The utility of low dose corticosteroids plus fludrocortisone therapy were presented in a study by Annane *et al*[2], the authors found a lower 90-days all-cause mortality in the corticosteroids treated group when compared with placebo confirming adrenocortical insufficiency in these patients.

    We argue that the given evidence in bacterial sepsis may not provide a similar one in a viral related one. Delayed viral redemption, diabetes, psychosis, and avascular necrosis could exist, plus absence of survival benefit which was found in a systemic review analyzed observational studies of corticosteroids in patients with severe acute respiratory syndrome related to viral invasion[3]. In a recent study by Arabi *et al*[4], done on 309 patients infected with middle east respiratory syndrome (MERS), the authors did not find a mortality advantage in the corticosteroid treated population after utilizing an adjusted time varying statistical approach for confounders. Moreover, they observed delayed clearance of MERS coronavirus RNA.

     In many cases of viral invasion, the reason for shock remains unclear, however it could be due to viral myocarditis or stress cardiomyopathy where corticosteroids could be of no value or adding additional harm to this dilemma.[5]  In Annane’s trial,[2] adequacy of the starting antimicrobial regimen was judged first according to insulting pathogen sensitivity and the site of infection in 96.2% and 96.9% of the patients who received antimicrobials either placebo or corticosteroids respectively. The later coverage does not exist till now for COVID-19.

**CONCLUSION**

We think that the indirect evidence used for suggesting steroids for COVID-19 may not be adequate in the current time and future data analysis should be directed to find possible evidence in a matched population.

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**Footnotes**

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