



COVID-19

SBAR for Corticosteroid Use in COVID-19

Situation: Need for clarification around corticosteroid use in COVID-19

Background: While corticosteroids use is discouraged in other viral lower respiratory tract infections (e.g. RSV bronchiolitis) it is a mainstay of treatment for asthma and croup- both of which may be or are viral-related. There have been no studies to date of steroid use in children with COVID-19.

Steroid is generally not indicated: Early administration of steroid may increase viral shedding (e.g. administration during the replicative phase) (1). Most patients recover well without severe sequelae – so steroid would not benefit such patients. Summary article reviewed previous studies of steroids in MERS, SARS. Found prolonged viral replication in blood/respiratory tract. No benefit to mortality. Their conclusion: “Overall, no unique reason exists to expect that patients with 2019-nCoV infection will benefit from corticosteroids, and they might be more likely to be harmed with such treatment. We conclude that corticosteroid treatment should not be used for the treatment of 2019-nCoV-induced lung injury or shock outside of a clinical trial.”(2)

Steroid might be beneficial in patients suffering from immunopathological cytokine storm (critically ill, ARDS) (3)
Retrospective single-center study describing 201 patients with COVID-19 pneumonia, improved mortality in patients treated with methylprednisolone.

Steroid may be indicated for other reasons: Authors generally agree that steroid should be used in patients with an independent indication for steroid, such as: Vasopressor-refractory shock, asthma.(4)

Assessment: No evidence to support *routine* use of systemic steroids in most children with COVID-19. Use may prolong viral shedding. Use for other indications (asthma, croup) is reasonable.

Recommendation:

- **Avoid corticosteroids in routine pediatric patients with COVID-19 without other indication.**
- **Ok to use steroid burst if indicated for asthma. May try to avoid systemic steroids by using inhaled corticosteroid (e.g. QVAR) after each albuterol treatment, up to Q4, in mild asthma exacerbations.**
- **Single-dose dexamethasone if indicated for croup is ok.**
- **Consider in critically ill patients (ARDS or vasopressor-refractory shock).**

References

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2. Russell CD, Millar JE, Baillie JK. Clinical evidence does not support corticosteroid treatment for 2019-nCoV lung injury. Lancet [Internet]. 2020 Feb 15 [cited 2020 Mar 17];395(10223):473–5. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/32043983>
3. Wu C, Chen X, Cai Y, Xia J, Zhou X, Xu S, et al. Risk Factors Associated With Acute Respiratory Distress Syndrome and Death in Patients With Coronavirus Disease 2019 Pneumonia in Wuhan, China. JAMA Intern Med [Internet]. 2020 Mar 13 [cited 2020 Mar 17]; Available from: <http://www.ncbi.nlm.nih.gov/pubmed/32167524>
4. Farkas J. Internet Book of Critical Care [Internet]. 2020 [cited 2020 Mar 17]. Available from: <https://emcrit.org/ibcc/covid19/>

SBAR prepared 3-17-2020 by Gabrielle Hester MD, MS and Brooke Moore, MD. *Disclaimer: This guideline is designed for general use with most patients; each clinician should use his or her own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.*