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Letter to the Editor

Corticosteroids and rehabilitation in COVID-19 survivors



To the Editor,

We read with great interest the timely review and recommendations presented by Cheng et al. outlining the rehabilitation of COVID-19 patients in Taiwan.¹ Survivorship and quality of life after a critical illness is an increasingly important healthcare concern. This gains even more importance when the magnitude of patients affected in the pandemic rise to an enormous level. To maintain the appropriate level of functionality, prevention of morbidity and loss of function should be of a part of healthcare planning. In this review article, the authors have meticulously delineated the evidence based recommendations for the rehabilitation of patients suffering major cardiac and pulmonary insult from the disease. However, upon careful reading, certain aspects warrant additional comments and considerations.

Understandably as the evidence is evolving around the disease, especially with regards to the critically ill patients require invasive mechanical ventilator support major landmark trials now have shown that the use of dexamethasone provides survival benefit as well as more mechanical ventilator free days.^{2,3} It is expected that more and more patients in the intensive care units will be exposed to steroids and sometimes the use may not be completely judicious. It is well established that critically ill patients requiring neuromuscular blockage and steroids in the ICU have a protracted course of recovery and need intense rehabilitation after the stage of acute survival.^{4–7} It would be helpful to the readers of the *Journal* if the authors recommend careful screening of patients that required steroids and neuromuscular blocking agents in the critically ill state in the ICU. In addition, the particular subset of survivors of critical illness that were exposed to neuromuscular blocking agents and steroids that may require additional rehabilitation strategy to identify and treat ICU acquired weakness (ICUAW).

Another important component of rehabilitation involves the psychological aspect. Close attention to the survivor's neurocognitive impairment cannot be compartmentalized or isolated from other systemic rehabilitation such as cardiac or pulmonary. Psychological assessment and management for the post-traumatic stress disorder (PTSD) during ICU stay and after ICU discharge is vital. Appropriate screening tools implemented to identify subclinical or occult mental insult in these patients as a part of cardiac or pulmonary rehabilitation can definitely pave a way to overall better quality of life and a feeling of survivorship.

The goal of management for these critically ill patients should not be restricted to discharge the patients back into the community or home, but to prevent loss of independence and productivity. Continuous realignment of care goals for these patients including short and rational use of corticosteroids, low dose and short duration of paralytic agents, multidisciplinary approach with early engagement of patient and family should be the approach.

This important publication definitely provides valuable information to the readers. Further addition of caution in patients requiring corticosteroids and neuromuscular blocking agents and possible additional need for rehabilitation in these patients would definitely add value to the knowledge in this field and educate the treating clinician pool of internists, pulmonologists, intensivists and rehabilitation specialists alike.

Verification

All authors have seen the manuscript and agree to the content and data. All the authors played a significant role in the paper.

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Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

References

1. Cheng Y-Y, Chen C-M, Huang W-C, Chiang S-L, Hsieh P-C, Lin K-L, et al. Rehabilitation programs for patients with COroNaVirus disease 2019: consensus statements of Taiwan academy of cardiovascular and pulmonary rehabilitation. *J Formos Med Assoc* 2021;120(1, Part 1):83–92.
2. Dexamethasone in hospitalized patients with covid-19 — preliminary report. *N Engl J Med* 2020. <https://doi.org/10.1056/NEJMoa2021436>. Epub ahead of print. PMID: 32678530; PMCID: PMC7383595.
3. Villar J, Ferrando C, Martínez D, Ambrós A, Muñoz T, Soler JA, et al. Dexamethasone treatment for the acute respiratory distress syndrome: a multicentre, randomised controlled trial. *Lancet Resp Med* 2020;8(3):267–76.
4. Jolley SE, Bunnell AE, Hough CL. ICU-acquired weakness. *Chest* 2016;150(5):1129–40.
5. Lal A, Akhtar J, Jindal V, Ullah A. Rare cause of respiratory failure: a twist in the tale. *Ann Am Thorac Soc* 2018;15(7):880–3.
6. Lal A, Mishra AK, Sahu KK, Noreldin M. Spontaneous pneumo-mediastinum: rare complication of tracheomalacia. *Arch Bronconeumol* 2020 Mar;56(3):185–6. <https://doi.org/10.1016/j.arbres.2019.09.017>. English, Spanish. Epub 2019 Nov 10. PMID: 31722830.
7. Lal A, Pena ED, Sarcilla DJ, Perez PP, Wong JC, Khan FA. Ideal length of oral endotracheal tube for critically ill intubated

patients in an Asian population: comparison to current Western standards. *Cureus* 2018;10(11):e3590.

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