Journal of the Postgraduate Institute of Medicine 2021; 8(2): E155 1-3

http://doi.org/10.4038/jpgim.8346

Letter to the Editor

Proning: All things matter

B M Munasinghe, R D Samarathunga

District General Hospital, Mannar, Sri Lanka

Key words: SARS-2, Covid-19, prone ventilation, awake prone ventilation, awake proning, ARDS

Corresponding Author: B M Munasinghe, E-mail: < malakafmp@gmail.com > https://orcid.org/0000-0001-8373-4752
Received: 22 Aug 2021, Accepted 07 Sep 2021, Published: 15 Sep 2021
Competing Interests: Authors have declared that no competing interests exist

To the editor,

The Covid19 pandemic continues to spread both locally and globally. Patients with severe Covid-19 requiring oxygen therapy are also on the rise. Prone ventilation in both awake and intubated patients with severe Covid-19 has been proven to improve oxygenation [1], even though adverse events related to proning are not uncommon among intubated patients [2,3]. Thus, it is necessary to carefully consider patient factors prior to choosing this rescue method.

An 82-year-old male presented to our institution with a diagnosis of Covid-19. He was not in respiratory distress was found to have severe acute respiratory distress syndrome (ARDS) with a P/F ratio (PaO2/FiO2) of 100. The unavailability of a high flow nasal oxygen device prompted awake proning with 15 L/min supplemental oxygen provided via a non-rebreathing mask. Prior to proning, the past medical records were traced which revealed an abdominal aortic aneurysm (AAA) managed conservatively. A repeat ultrasound showed a non-progressive AAA (internal diameter- 5.5 cm, supra renal, non-leaking). Following discussion with a vascular surgeon, proning was carried out with soft pillows placed under the lower chest and pelvis to avoid compression of the AAA. The patient was comfortable during the proning period.

His condition gradually improved with 14 hours per day proning. Intermittent continuous air way pressure ventilation was provided the rest of the time. Four days later, he complained of worsening back pain. He was haemodynamically stable. A repeat ultrasound of the abdomen excluded any changes in size or leaks of the AAA. Simple analgesics alleviated the pain. Subsequently, he was managed propped up, supine from day 13, after the arterial oxygenation improved to satisfactory levels.

Prone ventilation for severely hypoxaemic patients was first utilized in the 1970's. Its benefits were validated by several studies including the well-known PROSEVA trial which included mechanically ventilated patients [4]. With the advent of Covid-19, awake proning

was initially adopted as a 'bundle' in China, where a reduction in invasive ventilation was demonstrated [5]. The adoption of proning in the management of COVID 19 is largely based on observational, small case studies and awake proning is yet to be validated in large scale prospective studies.

Proning has led to complications, especially in mechanically ventilated Covid-19 patients. These include an increased incidence of pressure ulcers, airway related bleeding, medical device related issues [3] and peripheral nerve injuries [2]. Proning invariably affects almost all the body systems in the body which may be detrimental at times. In the case of our patient, prolonged prone position could have led to pressure on the AAA with devastating leaks or rupture. Pre-proning ultrasound excluded any progression of the AAA. Modifications that were tolerable to the patient were adopted during proning. Musculoskeletal discomfort is an identified adverse effect of awake proning and could lead to reduced tolerance [6]. The exact duration of self proning in Covid-19 is still unclear. Nonetheless patients should be able to and allowed to alter their position when required. The back pain complained of by our patient was alleviated with appropriate analgesics after prompt exclusion of a sinister leak or a rupture of his AAA.

Awake proning will continue to be incorporated in patient management, importantly in developing countries such as Sri Lanka with limited intensive care facilities and human resources. The outcomes following awake proning can be further improved by careful scrutiny of patient related factors simultaneously.

Acknowledgments

Staff, Covid Unit, District General Hospital, Mannar

References

1. McNicholas B, Cosgrave D, Giacomini C, Brennan A, Laffey JG. Prone positioning in COVID-19 acute respiratory failure: just do it?. British journal of anaesthesia. 2020 Oct 1;125(4):440-3. https://doi.org/10.1016/j.bja.2020.06.003
2. Malik GR, Wolfe AR, Soriano R, Rydberg L, Wolfe LF, Deshmukh S, et al. Injury-prone: peripheral nerve injuries associated with prone positioning for COVID-19-related acute respiratory distress syndrome. Br J Anaesth. 2020 Dec;125(6): e478-e480. https://doi.org/10.1016/j.bja.2020.08.045
3. Binda F, Galazzi A, Marelli F, Gambazza S, Villa L, Vinci E, et al. Complications of prone positioning in patients with COVID-19: a cross-sectional study. Intensive and Critical Care Nursing. 2021 Jun 1:103088. https://doi.org/10.1016/j.iccn.2021.103088
4. Guérin C, Reignier J, Richard JC, Beuret P, Gacouin A, Boulain T, et al. Prone positioning in severe acute respiratory distress syndrome. New England Journal of Medicine. 2013 Jun 6;368(23):2159-68. https://doi.org/10.1056/NEJMoa1214103

5. Sun Q, Qiu H, Huang M, Yang Y. Lower mortality of COVID-19 by early recognition and intervention: experience from Jiangsu Province. Annals of intensive care. 2020 Dec;10(1):1-4. https://doi.org/10.1186/s13613-020-00650-2
6. Touchon F, Trigui Y, Prud'homme E, Lefebvre L, Giraud A, Dols AM, et al. Awake prone positioning for hypoxaemic respiratory failure: past, COVID-19 and perspectives. European Respiratory Review. 2021 Jun 30;30(160). https://doi.org/10.1183/16000617.0022-2021