

Successful Extubation After Weaning Failure by Noninvasive Ventilation in Patients With Neuromuscular Disease – Do We Appreciate the Bigger Picture?

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In response to the original article: Ann Rehabil Med 2017;41(3):450-455

Dear Editor

We read, with considerable interest, the recently published article by Kim et al. [1] regarding the use of non-invasive ventilation (NIV) in the weaning and post extubation support of patients with neuromuscular disease (NMD).

As enthusiastic supporters of the wider use of post extubation NIV, we commend work in this very challenging patient group and congratulate the authors on their efforts. Patients with chronic NMD are recognised to have a high mortality when invasively ventilated [2], and are frequently rendered ventilator- or tracheostomy-dependant by any disease that impacts on their respiratory function [3]. As such, any work describing potential patient benefits in this area are always welcome.

However, we feel that there are several issues in the current study that could serve to limit its wider application, and these issues warrant further discussion.

The authors describe a case series of 18 patients with NMD who initially failed an extubation, and then were ‘successfully’ extubated using NIV, over a period of nearly 12 years. Plainly, this represents a very small sample size. Additionally, the allotted time period during which patients were identified covers a period in which substantial advances, changes and improvements in practice have been made in critical care. It is also interesting to note that the authors provide no information on other important demographic data—for example how many patients with NMD in that same time period successfully extubated at the first attempt, with or without the need for NIV?

It is also notable that whilst the authors report eighteen cases in which such a strategy was deemed successful—defined as no requirement for re-intubation or tracheostomy within 5 days—no data is offered as to how many patients were treated in this manner without success in this period. It is extremely important to know the failure rate of this technique, and in particular how many patients required a tracheostomy or failed to survive to ICU or hospital discharge. The current study only reports the

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successes without any recognition of the limitations of the technique, and thus gives us no real indication as to the potential for wider application of this approach.

The reporting of the case series is also limited by a paucity of verified medical documentation regarding the longer term outcomes for the patients included. Although we are informed that all were discharged from hospital alive, it would be enlightening to know rates of re-admission, requirements for domiciliary NIV support and the 1 year survival rate to truly understand the impact of the intervention on this patient group.

Whilst the authors present an interesting and thought-provoking case series, the lack of greater clinical data on important related outcomes in such a small patient sample suggests that this is a highly selected group, and surely limits how widely the findings may be applied to more general populations of patients with NMD. Further work to assess the impact of NIV as a post-extubation

adjunct and the impact its use has on important clinical end points is needed.

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