PS-9

Management Strategies for Long-Term Ventilator-Dependent Guillain-Barre Syndrome Patients

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INTRODUCTION

Guillain-Barre Syndrome(GBS) causes progressive bilateral muscle weakness, and up to 30% of patients require invasive ventilation with 70% needing tracheostomy. There is no standard consensus on how to wean and remove the tracheostomy in long-term ventilator-dependent GBS patients due to varying rates of recovery. Based on our experience, we propose management strategies to care for GBS patients with ventilatory insufficiency, aiming to minimize unnecessary invasive management and reduce the duration of invasive ventilatory management prior to weaning.

METHODS

We conducted a retrospective examination of the medical records of all GBS patients who were hospitalized and treated at Gangnam Severance Hospital between 2005 and 2022. All patients who received care with a mechanical ventilator were included in the study. We excluded 1) patients who did not use a ventilator, 2) patients who died before the weaning protocol was implemented, and 3) patients who were lost to follow-up before receiving sufficient treatment (less than 1month). As GBS patients typically exhibit a pattern of restrictive lung disorder, we developed our own weaning and decannulation protocol (Figure 1) based on previous studies, incorporating airway evaluation, dysphagia testing, and the use of non-invasive ventilation (NIV) to manage these patients.

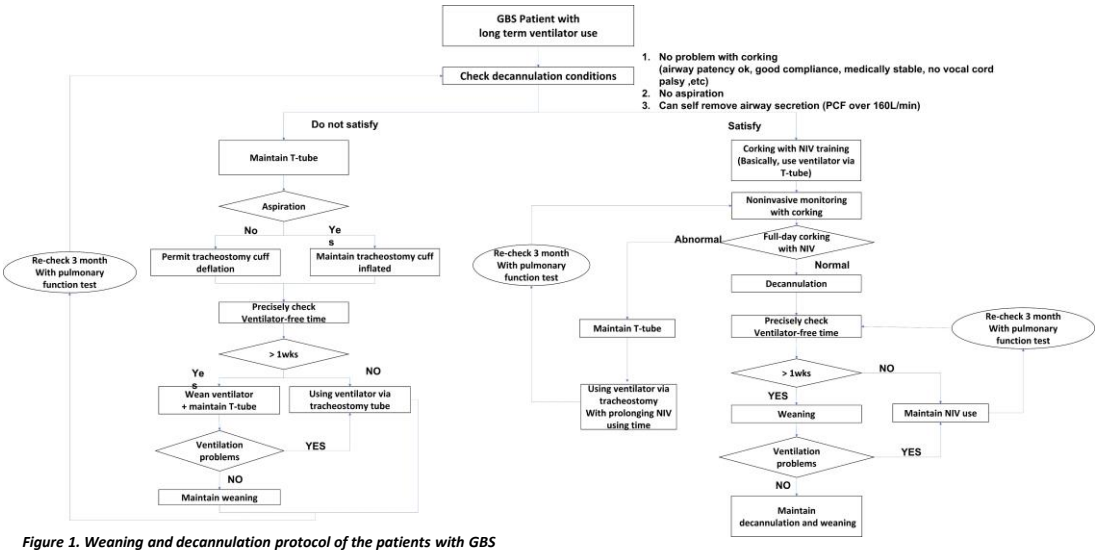

Figure 1. Weaning and decannulation protocol of the patients with GBS

RESULTS

A total of 60 patients (41 males and 19 females) were identified and included in the analysis. The onset age of GBS was 54.7 ± 17.6 (8.8-85.7) years. Among them, 58/60 patients underwent intubation, and only 2 patients overcame respiratory failure with non-invasive ventilation without invasive ventilation. Fifty-five patients underwent tracheostomy, and 3 patients were able to turn off the ventilator directly in the intubation state. The time from disease onset to tracheostomy was an average of 5.2 ± 8.5 (median 3.0) days, and the follow-up period after disease onset was an average of 915.8 days (median 436.0 days). At the final follow-up, 41 patients (68.3%) achieved weaning and decannulation, while 9 patients (15.0%) used NIV, 5 patients (8.3%) used tracheostomy and ventilation, and 5 patients (8.3%) used tracheostomy without ventilation. The mean time from ventilator initiation to weaning for patients who were able to turn off the ventilator was 186.4 days (median 183.0 days), and the mean time for ventilator discontinuation was 261.9 days (median 372.5 days). Eight patients used the ventilator for more than a year. A total 26 patients (63.4%) used NIV as a bridge therapy, and the duration of NIV use ranged from 3 to 353 days (mean 119.2 days, sd 93.6 days). Among them, 15 patients had to use NIV for more than 2 months.

CONCLUSION

Many GBS patients require long-term ventilator support, and non-invasive ventilation (NIV) can be helpful in both providing ongoing care and serving as a bridge therapy for ventilator weaning. The protocol presented in this study is effective in managing long-term ventilator-dependent GBS patients.