



Respiratory Recovery Milestones and Long-term Outcomes in Severe Guillain–Barré Syndrome

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INTRODUCTION

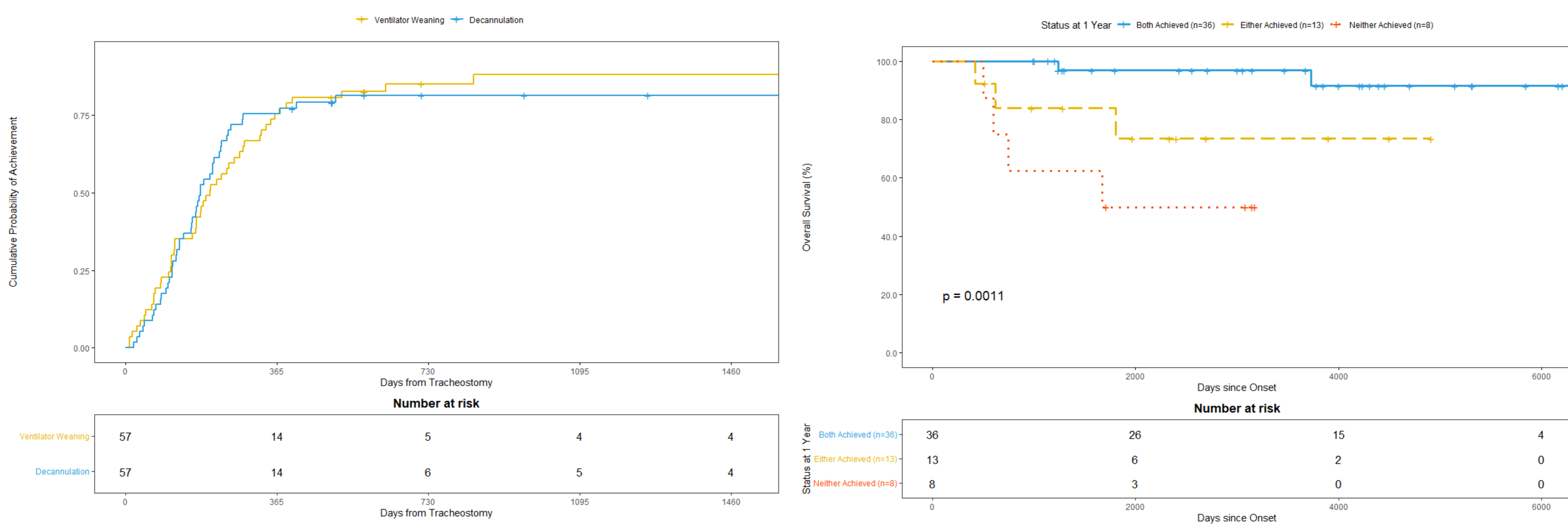
Severe Guillain–Barré syndrome often requires prolonged invasive mechanical ventilation and tracheostomy, yet the long-term prognostic significance of incomplete respiratory and airway recovery remains unclear. We aimed to determine whether respiratory and airway recovery status at 1 year after disease onset stratifies long-term survival in patients with severe Guillain–Barré syndrome requiring invasive mechanical ventilation.

METHODS

This single-center retrospective cohort study included 57 patients with severe Guillain–Barré syndrome who required invasive mechanical ventilation via tracheostomy at Gangnam Severance Hospital, Yonsei University College of Medicine, between 2008 and 2024. In a landmark analysis at 1 year after disease onset, patients were classified as having achieved both ventilator weaning and decannulation, either milestone alone, or neither. Long-term all-cause mortality was assessed using Kaplan–Meier analysis.

RESULTS

Among 57 patients (median age, 54 years), long-term survival at the 1-year landmark differed significantly according to respiratory recovery status (log-rank $P = 0.0011$). Mortality was 5.6% (2/36) in the Both Achieved group, 23.1% (3/13) in the Either Achieved group, and 50.0% (4/8) in the Neither Achieved group. Within the Either Achieved group, 5 of 7 patients with noninvasive ventilation dependence subsequently achieved complete weaning, whereas only 1 of 6 patients with persistent tracheostomy subsequently achieved decannulation.



CONCLUSIONS

In patients with severe GBS requiring ventilatory support, long-term survival is more strongly associated with the completeness of respiratory recovery than with motor outcomes alone. Respiratory and airway status at one year after disease onset represents a critical prognostic threshold, with complete independence from ventilatory support and tracheostomy conferring durable long-term survival. These findings highlight that ventilator liberation alone is insufficient and underscore the prognostic importance of achieving sustained respiratory and airway independence in severe GBS.