Noninvasive ventilation for neuromuscular respiratory failure: when to use and when to avoid.

Rabinstein AA

Abstract

PURPOSE OF REVIEW: Neuromuscular respiratory failure can occur from a variety of diseases, both acute and chronic with acute exacerbation. There is often a misunderstanding about how the nature of the neuromuscular disease should affect the decision on how to ventilate the patient. This review provides an update on the value and relative contraindications for the use of noninvasive ventilation in patients with various causes of primary neuromuscular respiratory failure.

RECENT FINDINGS: Myasthenic crisis represents the paradigmatic example of the neuromuscular condition that can be best treated with noninvasive ventilation. Timely use of noninvasive ventilation can substantially reduce the duration of ventilatory assistance in these patients. Noninvasive ventilation can also be very helpful after extubation in patients recovering from an acute cause of neuromuscular respiratory failure who have persistent weakness. Noninvasive ventilation can improve quality of survival in patients with advanced motor neuron disorder (such as amyotrophic lateral sclerosis) and muscular dystrophies, and can avoid intubation when these patients present to the hospital with acute respiratory failure. Attempting noninvasive ventilation is not only typically unsuccessful in patients with Guillain-Barre syndrome, but can also be dangerous in these cases.

SUMMARY: Noninvasive ventilation can be very effective to treat acute respiratory failure caused by myasthenia gravis and to prevent reintubation in other neuromuscular patients, but should be used cautiously for other indications, particularly Guillain-Barre syndrome.

PMID: 26872323 DOI: 10.1097/MCC.0000000000000284