Dr. Vianello and colleagues understand very well that it is usually because of an inability to cough out airway secretions during chest colds, rather than because of chronic hypoventilation, that patients with neuromuscular disease develop acute respiratory failure (ARF). They deserve commendation for directing their attention to these patients' primary impediment to extended survival. They propose using indwelling minitracheostomy tubes to facilitate secretion aspiration in times of need and note that hospitalization rates can also be decreased in this manner. It is not surprising that their approach can decrease the risk of respiratory failure and decrease hospitalization days, at least early on. However, although not mentioned in their letter, complications of minitracheostomy can be similar to those of full-sized indwelling tracheostomy tubes. They include tracheal damage, chronic bacterial colonization, granulation tissue formation, bleeding, diminished autonomous cough flows (because of air leak around the outer walls of the tube), and increased secretion generation. Furthermore, Vianello and colleagues note that "subjects...who require hospitalization because of an episode of ARF due to pneumonia or [upper respiratory tract infection] with severe inability to clear bronchial secretions are in some cases submitted to cryothroid minitracheostomy" and "in more recent years we decided to leave the [tracheostomy] tube permanently in neuromyopathic patients presenting with...inability to clear bronchial secretions...and vital capacity below 1,000 mL." The key point is that, with proper management of intercurrent chest colds that usually includes continuous noninvasive ventilation and manually and mechanically assisted coughing with oximetry feedback, ARF and pneumonia can be avoided in the first place. Furthermore, tracheostomy should only be considered when assisted peak cough flows (PCFs) decrease in the long term below 160 L/m.1,2 Whereas this appears to happen rarely if ever for Duchenne patients, tracheostomy is rarely warranted for them. Thus, if Vianello's group can evaluate, train, and supply its patients once their assisted PCFs decrease below about 270 L/m and before they develop ARF,2 then the only consideration for minitracheostomy will be as a prophylactic intervention, rather than as a compromise to leaving a full-sized indwelling tracheostomy tube. Here, too, however, there is a difficulty. Why should an otherwise well neuromuscular patient consider prophylactic minitracheostomy when airway secretions can be effectively eliminated with proper training and equipment? This said, I see a rationale for minitracheostomy for patients who cannot cooperate with our approach, in particular, for small children with spinal muscular atrophy type 1 or other severe congenital neuromuscular disorders. It may also be useful for patients with chronic aspiration of upper airway secretions on the basis of severe bulbar muscle dysfunction (PCF<160 L/m) that results in a chronic atelectasis and a long-term decrease in oxyhemoglobin saturation.3

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REFERENCES

Aerosol Treatment in the Emergency Department

To the Editor:

I read with interest the work by Mandelberg published in CHEST (December 1997).1 When I see patients in our emergency department, they rarely receive an inhaled bronchodilator alone for an acute attack. That is, they almost always receive intravenous corticosteroids in the form of Solu-Medrol, oxygen (always given to prevent hypoxia), and other various medications to relieve bronchospasm. In addition, most patients who come to the emergency department have already used spacers and inhalers at home and/or acorn nebulization at home; therefore, they are not the typical patient described in the paper. In conclusion, I feel that the results presented in this work, although useful, do not apply to a patient who has already been treated aggressively as an outpatient.

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REFERENCE

To the Editor:

We beg to differ. Our patients also received “state-of-the-art therapy” for acute airflow limitation, including IV steroids and supplemental oxygen. Needless to say, because the steroids do not take action immediately, there is a definite role for vigorous bronchodilation with β-adrenergic agents in the emergency department. We designed our study to clarify whether there is an effective alternative to wet nebulized aerosol, namely, delivery through a spacer device. We found that use of the spacer device is at least as useful as nebulized aerosol. We do think that our patient population fits the description of Dr. Fee and was “treated aggressively.” We did not investigate in detail the degree of previous therapy given at home. That therapy obviously failed since the patients were referred to the hospital and the need for additional treatment was mandatory.

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