EDITORIAL

Home mechanical ventilation in chest wall disease should aim at full correction of $\text{PaCO}_2$

Patients with chronic respiratory failure due to chest wall disease are likely to live longer if they receive home mechanical ventilation (HMV), though the evidence is mainly indirect. The most frequently cited guidelines are very vague on technical procedures and primary therapeutic aims. The recently published HMV guidelines (in German) from the German Society of Pneumology are much more elaborate. The Society’s recommendation for COPD is that treatment should aim at full correction of $\text{PaCO}_2$ on spontaneous breathing. However, the statement seems to be founded more on consensus than strong evidence, and for patients with chest wall disease, the German guidelines are less precise.

In this issue of *Respiratory Medicine*, a group from Barcelona presents important data on the predictors of survival in patients with chest wall disease (scoliosis or tuberculosis sequelae) who receive HMV. The group’s main conclusion is that patients who achieve normal or close to normal $\text{PaCO}_2$ ($<50$ mm Hg) during daytime spontaneous breathing one month after the initiation of HMV have significantly better survival outcomes. On a superficial level, this conclusion may appear as rather self-evident. However, few previous studies have addressed the question of how ambitious one should be in attempts to normalise blood gases. In addition, there may be more to this than just blood gas physiology. Olofson et al. have shown that preserved or improved global quality of life after 9 months of HMV treatment was related to better long-term survival. Quality of life may improve early after instituting HMV, provided that the therapy is aggressive enough to normalise daytime blood gases. To achieve this goal, ventilator settings have to be carefully monitored and adjusted.

There may of course be other identified or not yet identified confounding factors, such as comorbidity. Undernutrition and a more advanced disease state may have been present in the Japanese study. Patient factors may determine the subdivision into responders and non-responders in terms of blood gases and quality of life, which is largely independent of the technical efforts of the caregiver, and such patient factors may be relevant for survival.

My interpretation of the data provided in this issue of *Respiratory Medicine* is that an active approach should be applied. Therapy should be monitored and adjusted with full correction of the blood gases during spontaneous breathing as the primary aim. If this approach seems to fail—try a little harder! The data from Olofson et al. and Windisch suggest that there is no conflict between this goal and improvement in quality of life. In many instances, refining the therapy, such as asynchrony correction or increasing volume or pressure, will result in improved ventilation and ultimately in better daytime blood gases and quality of life. The data from Barcelona and from Japan published in this issue of *Respiratory Medicine* encourage us to refine our HMV therapy with respect to survival.

References


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