WEANING STRATEGIES OF DIFFICULT TO WEAN PATIENTS

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Endotracheal intubation and mechanical ventilation are often needed in patients with chronic obstructive pulmonary disease (COPD) and acute respiratory failure who may undergo difficulties in the weaning process and related need of tracheostomy. A recent review of literature of patients of general Intensive Care Units (ICUs) was unable to identify a superior weaning technique among the three most popular modes (namely: T-piece, synchronized intermittent mandatory ventilation (SIMV) or Pressure Support Ventilation (PSV)). Furthermore recent trials have demonstrated that simply introducing a protocol or guideline to the weaning process leads to a decrease in weaning time independent of the mode used. Similar studies have not been performed in the Long-term Weaning Units (LWUs) setting yet, nor have been specifically dedicated to COPD patients. These patients are characterized by a different response to ventilator disconnection and weaning with respect to patients in acute settings. Therefore results of studies performed in the acute setting in non-COPD patients cannot be applied to difficult-to-wean COPD patients. A better knowledge of the best weaning modality could help to improve general management of such patients and, ultimately, lead to a greater rate of discontinuation of mechanical ventilation and closure of the tracheostomy with reduced need of home ventilation and human and financial costs. Therefore we designed a prospective, randomized multi-center study to identify a superior modality (if any) between spontaneous breathing (SB) trials and decreasing levels of PSV in weaning of tracheostomized COPD patients requiring mechanical ventilation for more than 15 days. As a secondary end point we also performed a retrospective comparison with historical control patients, to evaluate whether a well-defined protocol, independent of the mode used, is more effective than uncontrolled clinical practice in weaning.