

In the Editor's Choice paper, Chang et al examined factors associated with choice of tidal volumes (V_T), and whether $V_T < 8$ mL/kg ideal body weight (IBW) relates to the development of ARDS. They found that clinicians respond to ARDS with lower initial V_T . Interestingly, initial V_T was not associated with the development of post-intubation ARDS or other outcomes. But as Dickson points out in his editorial, the V_T in those who did not have ARDS at the onset of intubation is smaller than that used traditionally, suggesting that practice has evolved towards the use of lower V_T in all intubated patients.

This month we publish 2 papers related to the high-flow nasal cannula (HFNC). Riera and colleagues used electrical impedance tomography to investigate the effects of HFNC and body position on global and regional end-expiratory lung impedance variation ($\Delta EELI$). HFNC increased global EELI in their population, regardless of body position, suggesting an increase in functional residual capacity. Prone positioning was related to a more homogeneous distribution of $\Delta EELI$, while in supine position $\Delta EELI$ was higher in the ventral lung regions. Peters et al assessed the effect of HFNC in do-not-intubate patients with hypoxemic respiratory distress. They found that HFNC can provide adequate oxygenation for many patients with hypoxemic respiratory failure and may be an alternative to noninvasive ventilation (NIV) in this patient population. Given the accumulating evidence supporting the use of HFNC, Wettstein suggests in his editorial that there should be wider promotion of this treatment modality.

In-patient rehabilitation outcomes following lower extremity fracture in patients with pneumonia was evaluated by Ahmed and colleagues. Pneumonia was a comorbidity for 2.8% of the subjects with lower extremity fracture. Pneumonia was associated with poorer rehabilitation outcomes in terms of longer hospital stay, lower discharge functional status, and lower odds of being discharged to home.

Nadeem and colleagues evaluated the efficacy of showing patients their raw graphic polysomnography (PSG) data to increase CPAP adherence. Unfortunately, showing patients raw graphic PSG data did not improve adherence to CPAP. BMI is a very strong predictor of CPAP adherence.

High-resolution computed tomography (HRCT) in assessment of patients with emphysema was evaluated by Wang et al. There was a significant correlation between 3 objective image variables and 6 objective clinical variables, which suggests a possible important role of HRCT in the diagnosis and quantification of pulmonary emphysema.

Duchateau and Guérin conducted a bench study to evaluate tidal volume delivery from ICU ventilators in body temperature and pressure saturated (BTPS) condition. They evaluated 2 ventilators with a built-in expiratory filter, and 4 without, when an external filter was added to the expiratory limb. In BTPS condition, volume error differed substantially across the ventilators for V_T delivery, with further significant changes occurring after adding a filter at the distal expiratory limb.

Bouardham and colleagues evaluated whether optoelectronic plethysmography accurately evaluated vital capacity (VC) in patients with respiratory muscle dysfunction of variable severity. Optoelectronic plethysmography was accurate and suitable for VC measurement in patients with various degrees of respiratory failure. This method may be an attractive alternative for accu-

rately measuring VC in the setting of air leakage when conventional spirometry is attempted.

Previous studies suggest a modest trend toward an increased risk of death among critically ill patients who received etomidate. Sunshine et al evaluated etomidate, adrenal function, and mortality in critically ill patients requiring endotracheal intubation. In this retrospective study, etomidate was associated with a trend toward an increase in mortality. Large, prospective controlled trials are needed to determine the role of etomidate in critically ill patients.

Alonso-Iñigo and colleagues studied active humidification with Boussignac CPAP using 2 commercially available humidifiers. This method of Boussignac CPAP humidification yielded humidity values above 25 mg H₂O/L regardless of the heated humidifier and flow used. CPAP pressure was not influenced by adding humidification.

Song Liu et al evaluated the prognostic value of plasma human β -Defensin 2 (HBD-2) level on short-term clinical outcomes in patients with community-acquired pneumonia (CAP). In patients with CAP, a lower plasma HBD-2 level was an independent predictor for adverse outcomes. Plasma HBD-2 level may become a useful tool for prognostic stratification in patients with CAP.

In North America, NIV is usually managed by respiratory therapists. In Europe, this responsibility is sometimes performed by physiotherapists. Simonelli et al describe the implementation of a standardized protocol for NIV adaptation and the physiotherapist's role. They found that, in Italy, physiotherapists can play a key role in the respiratory care management of patients receiving NIV and that this reduces the time spent by other health professionals.

The study by Hung and colleagues determined the trends in hospital resource utilization and associated factors in patients receiving prolonged mechanical ventilation (PMV) in Taiwan. They found a decrease in the prevalence of PMV, especially for older patients, and that stay decreased but hospital treatment costs increased for this patient population. In another paper from Taiwan, Chin-Jung Liu et al evaluated the impact of Taiwan's integrated prospective payment program on PMV. In this 6-year nationwide study, they found that implementation of this program reduced the total hospitalization cost, increased the duration of mechanical ventilation usage and stay, and reduced the weaning rate in PMV patients. Although the data for these 2 studies were generated in Taiwan, they are likely applicable to similar populations in other countries.

A systematic review and meta-analysis of the efficacy and safety of conventional transbronchial needle aspiration (TNBA) in sarcoidosis was conducted by Agarwal et al. The important finding of their review is that TBNA is an efficacious and safe procedure in the diagnosis of sarcoidosis. Because the performance of transbronchial lung biopsy (TBLB) adds to the efficacy of TBNA, a combination of TBNA and TBLB should be employed in diagnosis of sarcoidosis in patients with enlarged mediastinal lymph nodes.

This month we publish a review of the coexistence of bronchiectasis and rheumatoid arthritis. We also publish a respiratory care year in review related to invasive mechanical ventilation, NIV, and cystic fibrosis. The case reports published online relate to the use of heliox in patients with bronchiolitis obliterans after lung transplantation, and aspiration of a cigarette filter from a bronchodilator inhaler. The teaching case, also published online, relates to severe cavitary pneumonia caused by a non-*equi* *Rhodococcus* species.