MEDIBEATS
The Medical Bulletin

In Critical Care

1. Early, high-quality, and interdisciplinary communication improves shared decision making around end-of-life care in the ICU.

2. When difficult cases are causing moral distress and/or conflict among family members or team members, consider an ethics consultation to alleviate these issues.

3. Lung protection ventilation is less guided by volume than lung pressures. Minimizing both volumes and pressures is essential for a lung protective ventilation strategy.

4. Managing patient-ventilator interactions is crucial to outcome. The more control granted to a patient during assisted ventilation, the greater the patient-ventilator synchrony.

5. Definition of high-flow nasal cannula (HFNC). HFNC oxygen therapy uses an air/oxygen blender, active humidifier, heated tubing, and a nasal cannula capable of high flows (Fig. 9.1). The HFNC delivers adequately heated and humidified gas at flows up to

   60 L/min. The traditional oxygen cannula is limited to a flow of 6 L/min because higher flows are not tolerated. Due to the conditioning of the gas and the design of the prongs, the HFNC is comfortable at high flows.

6. Patient population that benefits most for use of NIV. The strongest evidence for use of NIV is for patients with exacerbation of chronic obstructive pulmonary disease (COPD). For such patients, the use of NIV has a mortality benefit, with a relative risk of 0.56

   (95% CI 0.38–0.82), which translates to a number needed to treat (NNT) of 16.

   The use of NIV for acute cardiogenic pulmonary edema is associated with a relative risk of 0.64 (95% CI 0.45–0.90), with a NNT of 16. Available evidence also supports a mortality benefit for NIV in patients with postoperative acute respiratory failure (NNT 11) and prevention of postextubation acute respiratory failure (NNT 12).

7 High-flow nasal cannula use immediately following extubation may decrease risk for reintubation in patients who remain in the ICU and at risk for recurrent respiratory failure.

8. The primary goal of hemodynamic monitoring is to assess the ability of the cardiovas- cular system in delivering oxygen to organs and peripheral tissues to meet metabolic demands.

9. Fluid responsiveness refers to an increase in stroke volume in response to a fluid chal- lenge. Methods used to predict fluid responsiveness include the passive leg raise test as well as systolic pressure, pulse pressure, and stroke volume variation.

10. Neuroprognostication after cardiac arrest depends on a combination of history of ar- rest, clinical exam, electroencephalography features, evoked potentials, and magnetic

resonance imaging findings. The depth of temperature management also can have a major impact on how these tools can be used to make a prognosis.

Dr. Subramaniyam Karutri