Current Recommendation in ARDS Management

Napplika Kongpolprom

Division of Pulmonary and Critical Care Medicine, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand

Background: Acute respiratory distress syndrome (ARDS) is characterized by severe hypoxemia and non-cardiogenic pulmonary edema, and associated with variable mortalities.

Objective: To review ventilatory and non-ventilatory management for the improvement of ARDS outcomes.

Methods: Current recommendation in ARDS treatment was reviewed.

Results: For over 20 years, many therapeutic strategies have been provided to improve patients’ outcomes. Lung protective strategy (6 ml/kg predicted weight) significantly reduced mortality from 40% to 30% and increased ventilator free days, compared with conventional ventilation (12 ml/kg predicted weight). (1) Neuromuscular blockade (cisatracurium) in patients with early ARDS with PF ratio <150 for 48 hours significantly reduced both 28-day and 90-day mortalities and increased ventilator free days without increased incidence of ICU acquired weakness. (2) In addition, prone position with lung protective strategy reduced 28-day and 90-day mortalities, and this strategy should be considered in patients with early ARDS and severe hypoxemia, who have PF ratio of <150 despite Fio2 of ≥0.6 and PEEP of ≥5 cmH2O. (3) On the contrary, some strategies did not improve survival and might be harmful to ARDS patients. Open lung approach significantly increased 28-day and 6-month mortalities with higher incidences of barotrauma and hypotension in moderate to severe ARDS patients. (4) High frequency oscillation ventilation (HFOV) increased hospital mortality in early ARDS patients. (5) The current recommendations in ARDS management are shown in the following pictures.

Conclusion: Lung protective strategy, neuromuscular blockade, and prone position can reduce mortality in ARDS patients.

References:

Keywords: ARDS, Ventilatory support, Non-ventilatory support