

عنوان مقاله:

The Role of Rapid Shallow Breathing Index in Predicting Successful Weaning of Pediatric Patients with Respiratory Failure

محل انتشار:

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خلاصه مقاله:

Background About 40 to 60% of all patients admitted to pediatric intensive care units undergo mechanical ventilation and 10 to 20% will fail to be extubated. We aimed to determine the role of the rapid shallow breathing index (RSBI) in predicting successful weaning of pediatric patients with respiratory failure. **Materials and Methods:** This cross-sectional study, was performed on 72 mechanically ventilated children (36 in the lung failure group and 36 in the pump failure group) who were admitted in Tabriz children's hospital in pediatric intensive care unit (PICU), Tabriz city, Iran. In order to spontaneous breathing trial (SBT) criteria, the patients who had FiO₂ less than 40%, PEEP less than or equal to 5 cmH₂O and PaO₂ higher than 60 mmHg, was placed on spontaneous ventilation mode (PSV+CPAP) to maintain a PEEP of less than or equal to 5 cmH₂O, PS of less than or equal to 8 cmH₂O and FiO₂ of less than or equal to 40%. After 2 hours, measured tidal volume and respiratory rate to calculate the RSBI then the patient was extubated. **Results:** From 72 patients were enrolled in this study, 26 patients failed in extubation. The total RSBI threshold was 6.7 breath/min/ml/kg (AUC = 0.739, 95%CI = 0.618 – 0.861; p = 0.001) with a sensitivity of 73.1% and a specificity of 80.4% for success of extubation. Patients successfully extubated had significantly lower RSBI 4.65 ± 3.03 breath/min/ml/kg compared to extubation failure group. **Conclusion** Based on the result of this study, the rapid shallow breathing index with a threshold of 6.7 breath/min/ml/kg was considered to be an acceptable and practical criterion for predicting the outcome of weaning in children.

کلمات کلیدی:

Airway extubation, Intra tracheal intubation, Pediatric, Respiratory failure

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