

Abstracts (Oral Presentation)**Association Between ROX Index and Outcomes of High Flow Nasal Cannula in Post-extubated Patients**Thiti Srichareonchai, M.D.^{1*}, Metanee Songrin, M.D.²**Abstract**

Introduction: High flow nasal cannula (HFNC) therapy is widely used in post-extubated patients. However, no standard parameter is available to predict the outcomes of HFNC during the post-extubated period. The ratio of oxygen saturation (ROX) index is used to predict HFNC failure in acute hypoxemic respiratory failure patients but there is insufficient evidence for use in post-extubated period.

Objectives: To evaluate ROX index as a parameter to anticipate outcomes of HFNC in post-extubated patients.

Methods: Cross-sectional study by Retrospective chart review was performed to investigate the role of ROX index in predicting outcomes of HFNC in post-extubated patients, i.e., successful extubation, 28 - day and hospital mortality, hospital length of stay (LOS). Baseline characteristics, respiratory and hemodynamic data were collected 6 hours before; and 2 - 6 hours, 6 - 12 hours, and 12 - 24 hours after HFNC application, subsequently the ROC analysis was performed.

Results: Of 236 patients, 196 (83%) and 40 (17%) succeeded and failed extubation after HFNC use respectively. At 6 - 12 hours of HFNC use, the mean \pm SD of ROX indices for succeeded and failed groups were 12.66 ± 1.89 and 6.71 ± 1.44 (breath/min)⁻¹, respectively and the ROX index cut-off value of³ 9.4 (breath/min)⁻¹ (AUROC = 0.991, 95% CI = 0.980-1.000) was strongly associated with successful extubation of HFNC application during post-extubated period. Higher ROX index at 2 - 6 hours of HFNC was associated with lower 28-day and hospital mortality, and shorter hospital LOS.

Conclusions: ROX index can be a tool to predict outcomes of HFNC use in post-extubation period, with ROX index³ 9.4 (breath/min)⁻¹ at 6 - 12 hours of HFNC use associated with successful extubation.

Keywords: ROX index, High flow nasal cannula, Post-extubated patient, Mortality

DOI: <https://doi.org/10.14456/2022s10706>

¹ Division of Pulmonary and Critical Care Medicine, Department of Medicine, Faculty of Medicine, Thammasat University, Pathum Thani, Thailand

² Department of Medicine, Faculty of Medicine, Thammasat University, Pathum Thani, Thailand

***Corresponding author:** Thiti Srichareonchai, M.D., Division of Pulmonary and Critical Care Medicine, Department of Medicine, Faculty of Medicine, Thammasat University, Pathum Thani, Thailand