

Category : **Respiratory: airway management/CPAP**

A59 - Non-invasive respiratory support in the covid-19 patients with acute respiratory failure.

S Khedher¹ ; M El Safti¹ ; N Mokni² ; H Al Khalaf³ ; HM Al Dossary³

¹AFH, ICU, wadi Al-Dawassir, Saudi Arabia, ²AFH, Medical departement, wadi Al-Dawassir, Saudi Arabia,

³AFH, Surgial departement, wadi Al-Dawassir, Saudi Arabia

Introduction:

Non-invasive ventilation (NIV), is currently enumerated as alternative approach in the management of acute respiratory failure in COVID-19 patients. Herein, we report our experience with the use of NIV.

Methods:

This was a prospective observational study was conducted between April 01, 2020 and April 31, 2021 in our ICU. Patients were monitored clinically and with serial arterial blood gas analysis. NIV was started with initial inspiratory positive airway pressure (IPAP) of 6–8 cm of H₂O and was gradually increased to achieve clinical response. The success of NIV, duration of NIV use, hospital mortality, and improvement in clinical parameters were assessed. The failure of success of NIV was defined as a subsequent requirement of invasive ventilation.

Results:

A total of 64 patients were included. The mean age of the study population was 62 years. 34 were men. Community-acquired pneumonia (83%) and pulmonary edema (17%) were the most common causes of respiratory distress. The ARDS criteria were found in 45 patients. NIV was used in 54 patients (84.3%), NIV with prone in 47.2 % and NIV with High Flow Nasal Cannula (HFNC) in 38.9%. The use of NIV was failed in 25 subjects, while 32 subjects required intubation with an average delay of 4 days. The mortality rate was 31% with positive correlation with NIV failure. Pao₂/Fio₂ ≤100 (p=0.02), comorbidity (p=0.01) and ICU delay admission ≥7 days (p=0.038) and acute renal injury (0.01), are significantly associated with NIV failure. The use of prone position and HFNC combined with NIV decrease significantly endotracheal intubation.

Conclusion:

In COVID-19 patients with acute hypoxemic respiratory failure, NIV is feasible can decrease the rate of tracheal intubation and mortality particularly if combined with prone and HNFC.