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Current status of NIV use in Korean ICUs: Interim analysis

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This study, granted by the 2017 Academic Fund of the Korea Academy of Tuberculosis and Respiratory Disease, is a prospective observation study of NIV use in 40 Korean ICUs. The study commenced in June 2017, and a total of 52 patients were enrolled until August 31 2017. Median age was 73.0 years (64.0–79.8 years) and height was 162 cm (152.3–168 cm); body weight was 53.5kg (45.5–64.6kg). The most common cause of NIV use was acute exacerbation of COPD (n = 26, 50.0%), followed by acute hypoxemic respiratory failure (n = 11, 21.2%) and post-extubation failure (n = 11, 21.2%). The most commonly used NIV device was ICU ventilator with NIV mode (n = 25, 48.1%); dedicated NIV device (n = 17, 32.7%), and home ventilator (n = 10, 19.2%). Among ventilator circuits, double circuit was used in 25 patients (48.1%), single circuit with leak port in 26 (50.0%) patients, and single circuit with exhalation valve in one (1.9%) patients. Regarding masks, facial mask was most commonly used (n = 43, 82.7%) and helmet mask was used in 6 (11.5%) patients; nasal mask in two patients and nasal pillow in one patient. The median inspiratory positive airway pressure (IPAP) used was 15.0 cm H₂O (12.0–18.0 cm H₂O) and expiratory PAP was 5.0 (4.3–6.0 cm H₂O); tidal volume was 407.0 ml (358.5–600 ml). Sedation was used in 9 (17.3%) patients. In terms of patient outcomes, 11 (21.2%) patients were weaned off NIV during the ICU care, and 16 (30.8%) patients were discharged home with NIV. However, 12 patients were intubated and mechanically ventilated, and 6 patients died during NIV use.

한글키워드: 비침습적양압환기, 중환자실, 호흡부전

영문키워드: Non-invasive ventilation, Intensive care unit

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Comparison of clinical outcomes between patients with unplanned extubation and planned extubation since introduction of high flow nasal oxygen cannula

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Purpose: Clinical data comparing clinical outcomes between patients with unplanned extubation (UPE) and planned extubation (PE) are lacking since an introduction of high flow nasal cannula (HFNC). The aim of study was to compare clinical outcomes between unplanned and planned extubation and to evaluate the impact on HFNC on extubation outcomes.

Methods: From May, 2014 to February, 2017, medical ICU patients receiving mechanical ventilation for at least 1 day were reviewed, retrospectively. Among them, patients who underwent planned or unplanned extubation were included.

Results: Among two hundred three patients included, Thirty one (15.3%) patients and one hundred seventy two (84.7%) underwent UPE and PE, respectively. Duration from MV to extubation did not differ between two groups (6.2 ± 4.1 days in UPE vs 5.6 ± 4.3 days in PE, $P=0.28$). Postextubation respiratory failure (PERF) developed more frequently in patients with UPE than PE (61.3% vs 35.5%, $P=0.007$). 54.8% patients with UPE and 44.8% PE received HFNC after extubation. There were no difference regarding the rate of re-intubation (29% in UPE vs 22.8% in PE, $P=0.454$) and extubation failure (35.5% in UPE vs 23.3% in PE, $P=0.148$). ICU and hospital also mortality did not differ. HFNC was negatively associated with extubation failure (OR=0.23, 95% CI 0.065–0.808, $P=0.022$).

Conclusion: Patients with UPE experienced PERF more frequently than those with PE, but clinical outcomes did not differ. HFNC may prevent extubation failure in patients with PERF.

한글키워드: 비계획적 발관, 호흡부전, 고유량 비강 캐놀라,

영문키워드: unplanned extubation, extubation failure, high flow nasal cannula