Study of non-invasive mechanical ventilation in ICU patients: clinical and prognostic relevance

المشاركون فى البحث :

Momtaz O M , El-Khateeb A F, Amin E TH

مكان نشر البحث

Fayoum University Medical Journal Momtaz et al., 2019, 2(1), 37-46

ABSTRACT

Non-invasive ventilation (NIV) is the provision of ventilatory support to the lungs without the use of an endotracheal airway. It has emerged as an important tool in the treatment of diverse forms of acute respiratory failure. It not only reduces the need for invasive mechanical ventilation and its associated complications, but also reduces the complications associated with stay in the intensive care unit, length of hospital stay, and mortality in selected patients.

This descriptive study was conducted on 50 critically ill patients with acute respiratory failure.

All patients were subjected to full history taking, complete physical examination, chest and cardiac imaging and laboratory investigations. **Conclusion** It is concluded that non-invasive ventilation is an effective, feasible and tolerable method with negligible side effects in management of most patients with acute respiratory failure admitted to ICU. It is effective in management of respiratory failure secondary to various etiologies including chronic obstructive pulmonary disease, interstitial lung disease, cardiogenic pulmonary edema and obstructive sleep apnea. It provides effective and early gas exchange and improvement of the various deranged physiological parameters associated with respiratory failure, thus allows early weaning and provides lesser need of invasive mechanical ventilation that carries its well-known serious complications. Both CPAP and BIPAP proved effective in management of respiratory failure secondary to various etiologies but BIPAP is more effective in more rapid gas exchange and physiological improvement, provide more frequent and successful early weaning and achieving lesser hospital stay in case of COPD and ILD whereas CPAP is more efficient in all of these parameters when managing CPO and OSA. Identifying various pathological co-morbidities in managing patients with respiratory failure by NIV is addressed in the current study and is should be always considered for tailoring therapeutic modalities during in-ICU management and after hospital discharge.

KEY WORDS: CPAP, BiPAP, COPD, ILD, pulmonary edema, obstructive sleep apnea, mechanical ventilation, non-invasive ventilation