Noninvasive positive pressure ventilation for acute respiratory failure in emergency department: a qualitative review

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The roles of noninvasive positive pressure ventilation (NIPPV) as a treatment modality for patients presenting with acute respiratory failure (ARF) to the emergency department (ED) have not been clearly identified. The major advantages of NIPPV are avoiding patient's discomforts and complications relating to endotracheal intubation and mechanical ventilation. This review is to explore the current evidence on the effectiveness of NIPPV in various subgroups of patients with ARF. The rationales, advantages, complications and contraindications in the usage of NIPPV will also be discussed. There is robust evidence to support the use of NIPPV in severe acute exacerbation of chronic obstructive airway disease (COAD). A modest amount of favourable evidence supports the use of Continuous Positive Airway Pressure (CPAP) in cardiogenic pulmonary oedema, although the potential for harm has not been excluded. There exists no solid evidence supporting the use of NIPPV in asthma and pneumonia. Early institution of NIPPV in the ED is appropriate, feasible, likely to be beneficial and without major complications. Further good quality studies to evaluate the roles of NIPPV for ARF in the ED setting are needed to define which groups of patients can gain most benefit from this type of treatment. (Hong Kong j.emerg.med. 2003;10:173-180)

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