

European Respiratory Society Annual Congress 2012

Abstract Number: 3891

Publication Number: P2059

Abstract Group: 2.2. Noninvasive Ventilatory Support

Keyword 1: Intensive care **Keyword 2:** Acute respiratory failure **Keyword 3:** Critically ill patients

Title: Noninvasive ventilation in acute cardiogenic pulmonary edema with haemodynamic instability

Dr. Inna 27979 Dolgova inna_dolgova@ukr.net MD ¹, Prof. Borys 27980 Todurov director@heart.kiev.ua MD ², Dr. Igor 28038 Kuzmich dockuzmich@gmail.com MD ¹, Dr. Oleksii 28039 Stanishevskii inna_dolgova@ukr.net MD ¹ and Dr. Irina 28040 Martyniuk inna_dolgova@ukr.net MD ¹. ¹ Intensive Care, Kiev City Heart Centre, Kiev, Ukraine, 02660 and ² Cardiac Surgery, Kiev City Heart Centre, Kiev, Ukraine, 02660 .

Body: Background: Although noninvasive ventilation (NIV) in acute cardiogenic pulmonary edema (ACPE) is widely used, its use in patients with unstable hemodynamics is contradictory. Aims: To evaluate NIV use in ACPE with low systolic blood pressure (SBP) and search for the correlates of its success. Methods: Prospective interventional trial of all 22 patients with ACPE with SBP 75-90 mm Hg, with no acute arrhythmia, SaO₂ 90% on spontaneous breathing with 10 l per minute oxygen, cooperative, not hypercapneic, with low cardiac output due to acute myocardial infarction, mitral regurgitation or congestive heart failure, was done from July 1, 2010 through December 31, 2011. All patients were immediately started on conventional therapy (dobutamine and/or dopamine, morphine, furosemide, nitroglycerine) and NIV through a face mask with FiO₂=1.0, initial PEEP 5 cm H₂O and pressure support (PS) 5 cm H₂O. Hemodynamic parameters, SaO₂, central venous saturation (ScvO₂), respiratory rate (RR) and tidal volume (Vt) were documented every 3 minutes. If no relief in 3 minutes, PEEP was enhanced to 7 cm H₂O and after next 3 minutes PS added to 7 cm H₂O. Results: All patients had SaO₂ 90% and SBP≥90 mm Hg after 10 minutes. If at this moment RR was 30 and Vt 5 ml/kg of body weight, or more than low doses of cardiotonics were needed, the patient was intubated (4 patients). After 30 minutes, those who needed FiO₂ 60% on NIV, were oliguric and failed to rise ScvO₂ above initial, were intubated (2 patients). No intubation was needed in 16 patients (73%). No factors correlated with NIV failure. Conclusion: In selected hemodynamically unstable patients with ACPE NIV helps avoid intubation.