عنوان مقاله:

Early Effectiveness of Noninvasive Positive Pressure Ventilation on Right Ventricular Function in Chronic Obstructive Pulmonary Disease Subjects with Acute Hypercapnic Respiratory Failure

محل انتشار:

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نویسندگان:

Sharzad Lari - *Pulmonologist, Lung Disease research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran*

Davood Attaran - *Pulmonologist, Lung Disease research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran*

Farveh Vakilia - *Cardiologist, Lung Disease Research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran*

Mostafa Kamandi - *Fellow of Hematology and Oncology, Lung Disease Research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran*

خلاصه مقاله:

Introduction: Noninvasive positive pressure ventilation (NIPPV) has become an integral tool in the management of acute hypercapnic respiratory failure (AHRF) in chronic obstructive pulmonary disease (COPD). This study was performed to evaluate the early effects of NIPPV on pulmonary artery pressure (PAP), serum N-terminal pro BNP (NT-proBNP), and ventilatory parameters in the COPD patients with AHRF. Materials & Methods: This quasi-experimental study was conducted on 20 COPD patients with AHRF. The participants received the standard treatment in addition to NIPPV. There was no contraindication for NIPPV. Arterial blood gas analysis, Doppler echocardiography (for measuring PAP), and plasma NT-proBNP measurements were performed before and after NIPPV. Results: According to the results, the mean age of the participants was 54.57±15.43 years. Furthermore, the mean pressures of carbon dioxide (PCO2), NT-proBNP levels, and PAP were 72.33±13.96 mmHg, 4333.90±6542.20 pg/ml, and 47.5±6.38 mmHg, respectively. After one week of NIPPV, there were statistically significant differences among the mean pH, PaCO2, PAP, and NT-proBNP (P<0.001, P=0.003, P<0.001, and P<0.001, respectively). Conclusion: As the findings of the present study indicated, the application of NIPPV in the COPD patients with AHRF can not only improve arterial blood pH and carbon dioxide tension, but also instantly decrease NT-proBNP levels and PAP.

کلمات کلیدی:

Brain Natriuretic Peptide Chronic Obstructive Pulmonary Disease, hypercapnic respiratory failure, noninvasive positive pressure ventilation