

ABSTRACT

**PRONE POSITION IN ARTIFICIALLY
VENTILATED CHRONIC OBSTRUCTIVE PULMONARY DISEASE
PATIENTS ASSESSMENT OF LUNG MECHANICS**

Key words: mechanical ventilation, COPD, prone position, lung mechanics, gas exchange

The purpose of this study was to compare the effect of prone position on the lung mechanics and blood gases exchange in mechanically ventilated chronic obstructive pulmonary disease (COPD) patients relative to the supine position.

METHODS: Thirty mechanically ventilated patients with acute respiratory failure type II on top of chronic obstructive pulmonary disease on a volume controlled mode were put in prone position for one hour then turned back to supine position. Arterial samples for blood gases analysis "ABG" and Lung mechanics parameters were taken before turning, 30 and 60 minutes after turning the patient to prone position and 30 minutes after returning the patient to supine position.

RESULTS : After one hour of pronation the PIP increased from 33.23 ± 6.8 to 36.4 ± 6.5 , the Pmean increased from 10.1 ± 2.3 to 11.74 ± 2.8 , Cdyn decreased from 22.47 ± 3.9 to 20.77 ± 3.2 , the Pplate decreased from 24.08 ± 4.1 to 21.8 ± 3.9 , the Cstat increased from 33.36 ± 5.7 to 42.04 ± 8.9 , the PaO₂ increased from 94.83 ± 38.8 to 105 ± 39.4 and the PaCO₂ decreased from 55.1 ± 12.02 to 50.6 ± 11.08 .

conclusion: Prone position showed significant decrease in plateau pressure and increase in static compliance, it also improves oxygenation and CO₂ wash relative to supine position. The peak inspiratory pressure, mean airway pressure, and intrinsic positive end expiratory pressure increase in prone position. The effect of prone position on oxygenation and CO₂ wash lasts for at least one hour after turning the patients to the supine position.

Key Words : CoPD - Mechanical Ventilation - Prone Position - Lung Mechanics .