



Efficacy of ventilator hyperinflation versus manual resuscitator bag on mechanically ventilated patients

Hend Hassan Sayed, HanyEzzatObaya, Zahra M. H. Serry, and Ahmed Fatouhelkasr el ani Hospital, Cairo, Egypt.

2Department of Physical Therapy for Cardiovascular, Respiratory Disorder and Geriatrics, Faculty of Physical Therapy, Cairo University, Egypt.

ABSTRACT

Background: Tracheal intubation, immobility imposed on the patient for sedation diminished cough effectiveness reduce mucociliary transport and promote the retention of secretions in the airway Lung secretion buildup can cause increased airway resistance and partial or total airway obstruction, with consequent alveolar hypoventilation and the development of atelectasis and hypoxemia and increased effort needed to breathe Imbalance is a common and often devastating problem among older people, leading to a reduction in activity levels, followed by strength reduction leading to increasing risk of future falls. Purpose: to evaluate the efficacy VENTILATOR HYPERINFLATION VERSUS MANUAL RESUISTATOR BAG ON PATIENTS UNDERGIONG MECHINCAL VENTILATION. Subjects and methods: Forty mechanically ventilated patients their age ranged from 40-50 years were selected from Cairo University Hospitals. The study conducted from march 2018 to july 2018 cairo, Egypt, The forty patients were classified into two groups; each group consisted of twenty patients. The first received ventilator hyperinflation and traditional physiotherapy (group A) and the second received manual hyperinflation and traditional physiotherapy (group B), The secretion, Ctot and Pao2 were evaluated before and after the procedure and statistical comparison between both group, Statistical analysis of data by using independent t-test between the two groups and dependent t-test was used to assess changes within group for assessment the changes in Pao2, compliance and secretions. Both groups will be evaluated through: amount of septum production, total compliance and ABGs 3 times per week, the duration of the study will be for two weeks.

The results there were significant difference in pao2 in ABGs in manual hyperinflation group (A), percentage of changes pre- Pao2 was (84.86 ±15.41), while the mean value of post- Pao2 after receiving manual hyperinflation and traditional physiotherapy treatment was (114.13 ±16.67), and significant difference in secretion the mean value of first-session was (16.66 ±6.17), while the mean value of final-session post- secretions after receiving manual hyperinflation and traditional physiotherapy treatment was (41.66 ±8.16), while non- significant difference in total complaince in both groups independent t-test of the patient WC for post-treatment, group A (107.65±5.09) and Post-treatment, group B (101.45±4.27) revealed that there was no statistical significant differences.. It was concluded that group (A) with manual hyperinflation had a significant improvement than group (B) ventilator hyper inflation

KEY WORDS: mechanical ventilator, manual hyperinflation, ventilator hyperinflation.