ABSTRACT

The usage of mechanical ventilation therapy has been applied in the critical care field for quite a long time. Despite of its benefits, potential complication known as Ventilator Induced Lung Injury (VILI) may occur.

This study is based on two points of view: the change in PaO2 / FiO2 ratio which reflects the occurance of volutrauma and / or atelectrauma and the increase of plasma TNF-α concentration which reflects the occurance of biotrauma.

Observation performed to two groups i.e the group with mechanical ventilation therapy and the group with spontaneous breathing without mechanical ventilation as a comparison. Sampling is done twice for both groups, at 0 hour and 24 hours later, changes are recorded and statistical analysis are carried out upon them.

The results are non significant decrease of PaO2 / FiO2 ratio in both groups and significant increase of plasma TNF-α concentration in group with mechanical ventilation, while the control group shows the opposite.

Keywords: mechanical ventilation, VILI, volutrauma, atelectrauma, biotrauma, PaO2 / FiO2, TNF-α