The 2nd International Neuroinflammation Congress and 2nd Student Festival of Neurosience

Shefa Neuroscience Research Center, Tehran, Iran, 17-19 April, 2018

The Neuroscience Journal of Shefaye Khatam

Volume 6, No. 2, Suppl 1

Poster Presentation

Effect of Airway Pressure Release Ventilation Mode on Intracranial Pressure and Oxygenation in Patients with Traumatic Brain Injuries

Javad Malekadeh[1], Aliyeh Pasandideh Khajebeyk[2*], Seyyed Reza Mazlum[3], Mahbube Yazdani[2]

[1]Department of Medical Emergency, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
[2]School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
[3]Department of Medical Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

Published: *17 April, 2018*

Abstract

This study aimed at compare influences of airway pressure release ventilation (APRV) and Synchronized Intermittent Mechanical Ventilation (SIMV) on intracranial pressure and oxygenation status in patients with traumatic brain injuries. A clinical trial was carried out in 40 patients with traumatic brain injuries in the intensive care unit in Kamyab neurosurgery Hospital, Mashhad, Iran. The patients meeting the study inclusion criteria were randomly assigned into two groups; intervention (APRV, n= 20) and control (SIMV, n= 20). The ICP, CPP, MAP, PaO2, SPO2, PaO2/FIO2 in both groups were measured before and after conditioning. Analysis of data was done using independent t-test in SPSS V.22. The mean ICP remained unchanged in both groups (P= 0.421). After the intervention, the CPP, MAP, heart rate, and pulse pressure in APRV group were not significantly different compared with those in the two groups before the intervention (P> 0.05), PaO2, SPO2, PaO2/FIO2 in APRV group were significantly improved. The results showed APRV as a safe mode that can be beneficial in patients with traumatic brain injury without concerns for increased intracranial pressure.

Keywords: Traumatic Brain Injury, Intracranial Pressure, Airway Pressure Release Ventilation, Oxygenation

Corresponding Author: Aliyeh Pasandideh khajebeyk

Email: *pasandidea1@mums.ac.ir*

[Downloaded from shefayekhatam.ir on 2026-10-06]