427. Assessment and techniques of physiotherapy: from healthy subjects to critical patients

A new device for inspiratory muscle training in patients with tracheostomy tube in ICU: A randomized trial

Ivete Alonso Bredda Saaia, Rodrigo Tonellia, Ligia Santos Rocetob, Lilian E.B. Delazari, Luciana Castilho, Antonio Luis Eiras Faleco, Paula S. Silva

1Physiotherapy and Medical Clinic, Unicamp, Campinas, Brazil

Background: Evaluation and training of the respiratory muscles are essential to reducing time of weaning invasive mechanical ventilation (VMI) in intensive care units (ICU). Powerbreathe® is indicated for inspiratory muscle training (IMT) with a progressive resistance and adjustable load in respiratory disease patients. Objective: Compare the inspiratory muscle strength between two groups of tracheostomy patients: IMT with Powerbreathe® and breathing through a humidified t-piece (T-tube). Methods: 25 tracheostomy patients were selected under VMI and randomized into two groups: T-tube (control) and IMT with Powerbreathe®. Patients of both groups received respiratory physical therapy and the MIP measurements with a digital manometer (MVD300, Globalmed®), with a one-way valve connected to tracheostomy, with occlusion for 20 seconds. In control group patients underwent T-tube until complete 48 hours of continuous nebulization. In the IMT group was used Powerbreathe® KH2 model (Powerbreathe®, IMT Technologies Ltd., Birmingham, England) for 30 cycles (three sets of 10 cycles with 1 minute interval between them), adjusted load 30% of the initial MIP, increasing 10% daily. For statistical analysis, were applied Wilcoxon test for comparison of related and Mann-Whitney test for independent samples variables. P values <0.05 were considered statistically significant. Results: Of 19 patients, 8 in the IMT group with 7 men and 11 in the control, with 8 men. Were increased final MIP compared to initial in IMT group (p=0.017), with no significant difference for the control group (p=0.304). Conclusion: The IMT with Powerbreathe® in tracheostomy patients promotes increased muscle strength.