ICU
MANAGEMENT & PRACTICE

Study: Effects of Inspiratory Muscle Training

A small randomised trial into the effects of inspiratory muscle training for patients who had been weaned from mechanical ventilation found increased inspiratory muscle strength and quality of life in the intervention group. The intervention was inspiratory muscle training once a day for 5 days a week for a fortnight in addition to usual care. The researchers, Bernie Bissett, from the Department of Physiotherapy, Canberra Hospital and colleagues, found an association with increased risk of in-hospital mortality in the intervention group, however, which they say they cannot confidently rule out. Their findings are published in *Thorax*.

70 patients who had been successfully weaned from mechanical ventilation for 48 hours were randomised to receive muscle training or usual care only in *The Effect of Inspiratory Muscle Training on the Residual Respiratory Muscle Weakness and the Quality of Life of Ventilated Patients* clinical trial (ACTRN12610001089022). Threshold-based IMT was performed using a handheld device, which provides carefully titrated constant resistance on inspiration only. The primary endpoint was the strength of the inspiratory muscle and fatigue resistance index (FRI) 2 weeks after the trial started. The secondary endpoints included dyspnoea, physical function and quality of life, post-intensive care length of stay and in-hospital mortality.

See Also: Respiratory Muscle Dysfunction - What Helps?

Results

Training group (n=34)
17% improvement inspiratory strength
Control group (n=36)
6% improvement inspiratory strength

FRI
no statistically significant difference (0.03 vs 0.02, p=0.81)

Physical function
no statistically significant difference (0.25 vs 0.25, p=0.97)

Dyspnoea
no statistically significant difference(−0.5 vs 0.2, p=0.22).

Improvement in quality of life was greater in the training group (14% vs 2%, mean difference 12%, p=0.03). In-hospital mortality was higher in the training group (4 vs 0, 12% vs 0%, p=0.051).

The researchers conclude that IMT can be considered an effective strategy to reverse some of the residual inspiratory muscle weakness that is common following prolonged mechanical ventilation, and may enhance quality of life in these patients with just 2 weeks of training.

Image credit: Canberra Hospital, Wikimedia Commons

Published on : Mon, 25 Jul 2016