Effects of different therapeutic intervention on clinical indicators and oxidative damage in patients on mechanical ventilation

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Introduction: Problems in weaning patients on mechanical ventilation and prolonged hospitalization have been widely reported and therapeutic interventions are necessary. Physical therapy seems to help reduce the problem but the best physiotherapeutic procedure and the benefits are issues that remain unknow. This study evaluates the effects of different physical therapy protocols on clinical indicators and oxidative damage parameters in patients exposed to MV. Material and Methods: 40 patients were divided into 4 groups: control (n=12), passive exercise (n=10), electrical stimulation (n=10) and passive exercise plus electrical stimulation (n=8). Clinical data were collected daily and blood samples (3-mL) were collected from each patient twice, at the beginning of the implementation of protocols (baseline), and at the end of treatment. Results and Discussion: Concerning patient characteristics and about clinical data no major significant differences were observed between groups either on baseline or on their LOCF. We also have not observed significant differences on thiol content variation from baseline (H = 2.904, p = 0.406), xyleneol variation was significant between groups (H = 19.521, p = 0.0002). Post hoc analysis indicated significant differences between protocol 1 and 4 (q = 3.912) as well as 1 and 3 (q = 3.430). Observed variation on xyleneol content is not explained by protocol length (p = 0.943). Conclusions: The results on the effects of the protocols used were inconclusive. However, there is evidence that the therapeutic routines can reduce oxidative damage.

Key Words: Mechanical ventilation., Exercise., Electrical stimulation., Oxidative damage., Oxidative stress.

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