

#180

THE EFFECT OF LOW-INTENSITY LASER IN A PATIENT WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE DURING RESPIRATORY THERAPY

Nelson Serrão, Rina Magnani, Simone Libardi, Allison Braz, Nathali Pinto, Maria Cristina Chavantes

UNESP, Avaré, Brazil; UNICENTRO, Guarapuava, Brazil; USP/INCOR, São Paulo, Brazil; UFGO, Goiás, Brazil

Background: Chronic Obstructive Pulmonary Disease (COPD) currently acquired worldwide the fourth position, as principal cause of death. It is characterized by an airflow limitation and partially reversible clinical problems as dyspnea, hyperinflation, coughing as well as a number of factors that follow this framework. The aim of this study was to evaluate Low Level Laser Therapy (LLLT) effect upon the respiratory muscles during respiratory therapy from COPD patients.

Study: The patients were subjected to a physical therapy evaluation and spirometric evaluation. The inclusion criteria for these volunteers was the FEV1 <80% from the predicted. The surface electromyography (EMG) on muscles, as: sternocleidomastoid (SCM), scalene, external intercostal and rectus abdominals, the electrodes were placed unilaterally on right side. Participants were divided into 2 groups: Group I - only

Pulmonary Physical Therapy (PPT) Group II - PPT + Low Level Laser Therapy (LLLT). The LLLT onto the referred muscles were applied. Laser w/l = 830 nm, P = 30 mW, T = 7 sec., 3 points with 1 cm far apart were used. EMG in both situation, before and 50 min., post Laser application were performed.

Results: It was observed a great reduction of all variable RMS as same as an increase of the area of the scalene muscle in the Group II (LLLT + PPT). No longer the Group I (PPT) had an increase of the RMS in all the studied muscles, except in the sternocleidomastoid.

Conclusion: LLLT was effective to promote improvement in all patients treated w/Laser. The study has shown the significant values on the EMG post LLLT application as well as there was a decrease of muscle activity in COPD patients, therefore enhancing their quality of life.