

Immunomodulatory effects of two different physical therapy modalities in patients with chronic obstructive pulmonary disease.

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Abstract

[Purpose] Counteracting the systemic cytokine release and its inflammatory effects by improving respiratory muscle strength and controlling lung inflammation may be important for improving immune system in patients with chronic obstructive pulmonary disease, So the aim of the present study was to evaluate the effect of low level laser therapy and inspiratory muscle training on interleukin-6 (IL-6) as a marker of inflammation and CD4+/CD8+ ratio as a marker for T Lymphocytes in these patients. [Subjects and Methods] Forty male patients with stable COPD participated in the study, their ages ranged between 55-65 years. They were randomly divided into group (A) who received inspiratory muscle training and group (B) who received low level laser (LLL) acupuncture stimulation for about 8 week. [Results] There was a reduction in the concentration of plasma IL-6 associated with an increase in CD4+/CD8+ ratio in both groups, but laser was superior to inspiratory muscle training. IL-6 and CD4+/CD8+ were negatively correlated. [Conclusion] Both inspiratory muscle training and low level laser therapy are effective physical therapy modalities in promoting immune disturbances. The results also supported the superior role of LLLT over IMT in managing immune disturbances.

KEYWORDS:

Immunity; Inspiratory muscle training; Low level laser therapy