

**NEAR INFRARED LASER THERAPY (810NM) ON LYMPH NODES:  
EFFECTS ON ACUTE INFLAMMATORY PROCESS**

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The aim of the present work was to investigate the effects of infrared (810nm) low level laser therapy (LLLT) on the acute inflammatory process by the irradiation of lymph nodes, using the classical model of carrageenan-induced rat paw edema.

Thirty male Swiss mice were randomly divided into five groups. The inflammatory induction was performed in all groups by a sub-plantar injection of carrageenan (1mg/paw). The paw volume was measured before and 1,2,3,4 and 6 hours after the injection using a plethysmometer. Myeloperoxidase (MPO) activity was analyzed as a specific marker of neutrophil accumulation at the inflammatory site. The control group didn't receive any treatment (GC); GD group received sodium diclofenac (1mg/kg) 30 minutes before the carrageenan injection; GP group received laser irradiation directly on the paw (1 Joule, 100mW, 10 sec) 1 and 2 hours after the carrageenan injection; GLY group received laser irradiation (1 Joule, 100mW, 10 sec) on the inguinal lymph nodes; GP+LY group received laser irradiation on both paw and lymph nodes 1 and 2 hours after the carrageenan injection.

MPO activity was similar in sodium diclofenac as well as in GP and GLY groups and significantly lower than GC and GP + LY groups. Paw edema was significantly inhibited in GP and GD groups when compared to the other groups. Interestingly the GP+LY presented the biggest edema, even bigger than the control group.

LLLT showed an anti-inflammatory effect when the irradiation was performed on the site of lesion or at the correlated lymph nodes but showed a pro-inflammatory effect when both paw and lymph nodes were irradiated during the acute inflammatory process.

**Financial Support:** FAPESP GRANT 2005/02117-6