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EFFECTS OF LOW LEVEL LASER THERAPY ON ACUTE INFECTIOUS PROCESS *PSEUDOMONAS AERUGINOSA*-INDUCED IN MICE

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Low level laser therapy (LLLT) is used to promote wound healing and has been applied in many therapeutic protocols. Some studies have shown that LLLT can increase cell proliferation, release inflammatory mediators, accelerate wound healing and modulate inflammatory process. However, studies about its action on infectious process and immunological response are still scarce.

This study aimed to investigate the effects of LLLT on cutaneous acute inflammatory lesion caused by *Pseudomonas aeruginosa* infection by digital evaluation.

Sixteen male BALB/c adult mice were anesthetized and divided into two groups: A (control - no irradiated) and B (laser therapy). The left paw of each animal was inoculated with 50μL of *Pseudomonas aeruginosa* (~$5x10^6$ cells) while right paw received PBS. After six hours, the group B received a single laser irradiation (λ= 660nm, P= 50mW) with fluence of $3J/cm^2$ and the probe was used punctually in contact with the skin. Mice were photographed under the same conditions of distance, lighting and settings. All digital images were analyzed using ImageJ software to measure the induced bacterial infection swelling. The paw swelling evaluation was carried out before laser therapy and after 16h and 24h.

Both groups presented the same comportment on swelling during experimental period. Besides, the group irradiated by laser showed a significantly swelling decrease at 24h after treatment when compared to the control group. No side-effects were observed in the laser group.

Under the conditions investigated in this study, LLLT does not increase bacterial infection and could reduce infectious inflammatory swelling.