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EDEMA PREVENTION AND TREATMENT BY 810NM LASER IRRADIATION ON LYMPH NODES

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Low level laser therapy (LLLT) has been demonstrated by many authors to modulate the inflammatory process. The present work investigated the effects of infrared (810nm) LLLT on the acute inflammatory edema by the irradiation of lymph nodes. The acute inflammatory edema was achieved by a sub-plantar injection of carrageenan (SIC) (0,5mg/paw) performed in 125 male Swiss mice randomly divided into five groups. The control group (GC) didn't receive any treatment; GD received sodium diclofenac (1mg/kg); GP received laser irradiation directly on the paw; GLY received laser irradiation on the inguinal lymph nodes; GP+LY received laser irradiation on both paw and lymph nodes. All irradiations were performed with the same parameters: 1J, 100mW and 10s. The moment of irradiation was done in five different manners: A (1 and 2h before SIC); B (1h and immediately before SIC); C (1 and 2h after SIC); D (3 and 4h after SIC) and E (3.5 and 4.5 h after SIC). The paw volume was measured before and 1 to 6h after SIC using a plethysmometer. The edema prevention was obtained by all irradiated groups on moment A. On moments B and C, edema was reduced by GLY, and by GP and GLY, respectively. Regarding moments D and E, the edema reduction was found following irradiation of GP+LY and GLY, and after GP, in that order. Near infrared low level laser therapy (LLLT) showed to be efficient on edema prevention and treatment when lymph nodes are irradiated depending on moment of irradiation.