

Abstract Submitted
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Interstitial Laser Irradiation of Solid Tumors in Laser Assisted Cancer Immunotherapy LINDSAY EVANS, Hendrix College, PRADIP BANDY-OPADHYAY, Hendrix College — Laser Assisted Cancer Immunotherapy (LACI) is an experimental therapeutic approach in cancer treatment. Current experiments in our laboratory begin with growing superficial tumors 5 to 7 mm in diameter in BALB/C mice using the CRL-2539 cell line. Tumor sizes were measured with a vernier caliper prior to injection of light absorbing dye (Indocyanine Green, ICG) and immunoadjuvant (Glycated Chitosan, GC). These measurements were continued during the post-therapy period. After injection with the ICG and GC, the mice underwent interstitial irradiation of the tumor with a diode laser operating at 804 nm. Microthermocouples were inserted into the tumor and the laser power was varied in order to monitor the temperature and keep it within in the desired range. Tumors were irradiated at 55°C, 65°C, and 75°C to find out at which temperature the maximum amount of tumor necrosis and strong immune response could be elicited. The growth of the tumors after the LACI treatment will be plotted to show the affect of the therapy at different temperatures. The data suggest that the growth rate of the tumors is slowed down considerably using this approach. * This work is supported by a grant from The National Institutes of Health.

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