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Efficacy of low-level **laser** therapy on hair regrowth in dogs with noninflammatory alopecia: a pilot study.

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Abstract

BACKGROUND:

Canine noninflammatory alopecia (CNA) is a heterogeneous group of skin diseases with different underlying pathogenesis. The therapeutic approach is challenging, and new options for treatment are desirable.

HYPOTHESIS/OBJECTIVES:

To test the clinical efficacy of low-level **laser** therapy (LLLT) on hair regrowth in CNA.

ANIMALS:

Seven dogs of different ages, breeds and genders with a clinical and histopathological diagnosis of noninflammatory alopecia.

METHODS:

Each dog was treated twice weekly for a maximum of 2 months with a therapeutic **laser** producing the following three different wavelengths emerging simultaneously from 21 foci: 13 × 16 mW, 470 nm; 4 × 50 mW, 685 nm; and 4 × 200 mW, 830 nm. The fluence given was 3 J/cm², frequency 5 Hz, amplitude of the irradiated area was 25 cm² and application time was 1.34 min. A predetermined alopecic area was left untreated and served as a control area. From one dog, post-treatment biopsies of treated and untreated sites were obtained for histological evaluation of hair density and the percentage of haired and nonhaired follicles.

RESULTS:

At the end of the study, coat regrowth was greatly improved in six of seven animals and improved in one of seven. By morphometry, the area occupied by hair follicles was 18% in the treated sample and 11% in the untreated one (11%); haired follicles were (per area) 93% in the treated sample and only 9% in the control sample.

CONCLUSIONS AND CLINICAL IMPORTANCE:

Our clinical and histological data document promising effects of LLLT on hair regrowth in CNA. Further studies investigating the biological mechanism underlying the effect of LLLT on hair follicle cycling are warranted.