Histopathologic changes induced by intense pulsed light in the treatment of poikiloderma of Civatte.

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Abstract

BACKGROUND: The clinical efficacy of intense pulsed light (IPL) in the treatment of poikiloderma of Civatte (PC) is well documented, but little is known about microscopic changes.

OBJECTIVE: To analyze histopathologic findings on the necks of individuals with PC after IPL therapy.

MATERIALS AND METHODS: Fourteen patients with PC on the neck underwent three monthly sessions of IPL. Biopsies and clinical photographs were taken before and 60 days after treatment. A dermatopathologist analyzed histopathologic slides stained with hematoxylin and eosin, Masson's trichrome, Verhoeff-van Gieson and Fontana-Masson or processed for CD-34 immunohistochemistry. The slides also underwent digital image analysis. Clinical results were based on the analysis of the pictures by three dermatologists and on patient satisfaction.

RESULTS: Intense pulsed light treatment resulted in more-homogeneous melanin distribution; a greater number of fibroblasts and nonfragmented elastic fibers; and greater density (p = .01), color intensity (p = .02), number and thickness of the collagen bundles. No significant changes in vessels' number or diameters were observed. Clinical results were positive in 92.9% of the cases.

CONCLUSION: IPL treatment of PC induced a more-homogeneous distribution of melanin and increased nonfragmented elastic fibers, collagen density, and intensity. These changes were related to clinical improvement.

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