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Evaluation study

Topical treatment of acne vulgaris: Endolift® direct optical energy combined with LIGHTSCAN™ fractional laser

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ABSTRACT

This study evaluated the efficiency of a novel minimally invasive outpatient laser procedure, Endolift®, which destroys sebaceous glands with the combination of LASEmaR® 1500 and LIGHTSCAN™ - a fractional, non-ablative laser treatment. Thirty patients with acne vulgaris moderate to severe of both sex were treated, ranging from 18 to 35 years old; 70% had moderate and severe acne, and 30% had moderate acne. Only one session was performed of 200 microns of laser fibre inserted under the skin without anaesthesia. Eufoton® LASEmaR® 1500 works at a wavelength of 1470 nm. Three patients reported acne eruptions between 7 to 10 days after the treatment, which resolved in a few days; 70% of patients reported improvements after 3 to 4 weeks, and over time it has been going on to improve; the number of acne was significantly reduced, and the inflammation was superficial. Thirty% of patients reported improvements after 45 days. The final result is seen after 9 months; until then, we can expect gradual improvement. For 65% of the patients, one session was enough, with recommended measures to keep acne under control; for the 35%, we used 2 to 3 treatments based on LIGHTSCAN™ to keep acne under control. Patients reported a reduction in skin pores and an improvement in skin quality. There was no downtime and any side effects. In this study, patients with moderate to severe acne undergo 1 to 3 treatments based on direct optical energy reporting reduction of acne and skin inflammation.

INTRODUCTION

Acne vulgaris is a common disease in approximately 80% of young adults and adolescents. Acne may affect both sexes even before puberty. This skin disturbance is a complex chronic inflammatory disease of the skin characterized by open and closed comedones (not always visible) and lesions with inflammatory nodules, pustules, and papules, which typically affect the face, back and chest (1, 2).

Acne vulgaris is a chronic disease that usually requires prolonged therapy for a satisfactory outcome. Treatment adherence in patients is a major problem, both for systemic and topical treatments, owing to side effects and the prolonged treatment time. Insufficient adherence is very common and leads to the recurrence of acne, patient dissatisfaction, and increased medical costs. Numerous studies have reported low adherence rates for overall local acne treatments, with the United States having the lowest rate of 11.74% (3).

This study evaluated the choices in topical treatment for acne vulgaris and patient adherence to the prescribed treatment (4-6). The combination of Eufoton® LASEmaR® 1500 with LIGHTSCAN™ fractional, non-ablative laser treatment is also studied (7).

MATERIALS AND METHODS

This study included 30 patients of both sexes aged 18 to 35 y-o affected by acne vulgaris. Of these patients, 70% had moderate to severe acne, while 30% had moderate acne.

Participants underwent 1 to 3 sessions of treatment with Endolift®. ENDOLIFT® is a minimally invasive outpatient laser procedure used in endo-tissutal (interstitial) aesthetic medicine. The laser treatment is performed with the latest Eufoton® LASEmaR® 1500 (certified and approved by the American FDA for laser-

assisted liposuction). In the present work, Endolift has been used to destroy sebaceous glands using direct optical energy.

The topical treatment consisted of the insertion under the skin (without anaesthesia) of a 200 microns laser fibre. The Eufoton® LASEmaR® 1500 utilizes a wavelength of 1470 nm. Immediately after the subdermal treatment, we used LIGHTSCAN^{TM}, a fractional, non-ablative laser 1540-nm, to treat the skin surface to produce microscopic damage under the skin, promoting neocollagenesis to reduce acne scars and destroy sebaceous glands.

RESULTS

Of the 30 patients enrolled in the present study, 3 reported - between 7 to 10 days after the treatment - few acne eruptions, which resolved in a few days. Seventy% of patients reported improvements after 3 to 4 weeks, and it has been going on to improve over time. The number of acne lesions was significantly reduced, and the inflammation was always superficial (Fig. 1). Furthermore, 30% of patients reported impressive improvements after 45 days.

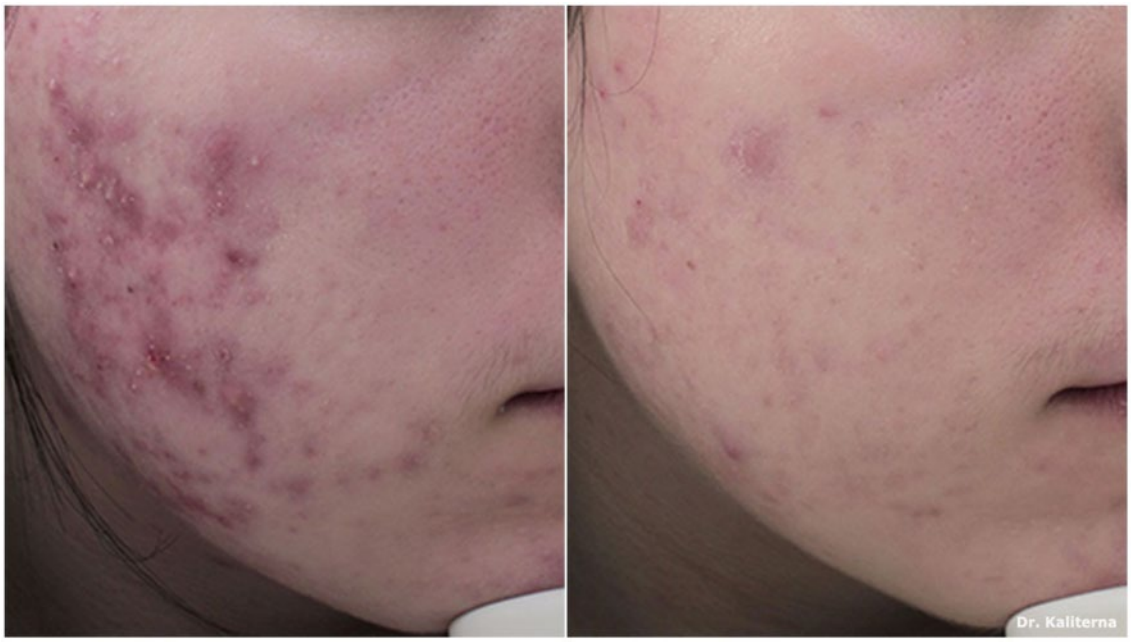

Fig. 1. *Acne Vulgaris. Treatment ENDOLIFT® - Eufoton® LASEmaR® 1500, 1470-nm followed by LIGHTSCAN^{TM} fractional, non-ablative laser 1540-nm.* ***Left****: before.* ***Right****: after two sessions.*

The final result was evaluated after 9 months. For 65% of the patients, one session was satisfactory; the 35% that had undergone 2 to 3 treatments based on needle radiofrequency were able to keep acne totally under control. All patients reported a reduction in the skin pores and an improvement in the skin texture. In the 18-month follow-up, no relapses were observed, nor were side effects either during the treatment or in the follow-up.

DISCUSSION

In this study, patients with moderate to severe acne undergo 1 to 3 treatments based on direct optical energy reporting reduction of acne and skin inflammation; this is a completely new approach which is safe and effective under the algorithms reported by us. Accordingly, we suggest that this treatment should be considered a first-line option mainly in cases where systemic treatments are not indicated. Patients adherence was extremely high.

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