Journal of Applied Cosmetology

ISSN 2974-6140 (online) ISSN 0392-8543 (print)

Evaluation study

Nonsurgical eyelid ptosis: topical treatment with Endolift® direct optical energy

R. Sadoughifar[1], D. Kaliterna[2], R.J. Llergo Valdez[3], M. Kamalska[4], A. Abdelmaksoud[5] and B. Türsen[6]

[1]Bidar Skin Center, Tehran, Iran; [2]Poliklinika Poliderma, Zagreb, Croatia; [3]Mexican Foundation of Dermatology, Mexico; [4]Heliodor Swiecicki Clinical Hospital of Poznan, Poland; [5]Mansoura Dermatology, Venerology and Leprology Hospital, Mansoura, Egypt; [6]Mersin University, Mersin, Turkey

Corresponding author:
Dinko Kaliterna, MD,
Ulica grada Vukovara 284d 4. kat
Zagreb (Almeria centar)
Tel: +385 1 4828 961
e-mail: poliderma@poliderma.hr

Keywords: *eyelid ptosis, topical therapy, optical energy, Endolift®, Eufoton® LASEmaR® 1500, laser treatment, blepharochalasis, palpebral ptosis, cutaneous ptosis*

Received: 26 October 2022
Accepted: 19 December 2022

ISSN 2974-6140 (online) ISSN 0392-8543 (print).

DISCLOSURE: **ALL AUTHORS REPORT NO CONFLICTS OF INTEREST RELEVANT TO THIS ARTICLE**

ABSTRACT

This study was designed to evaluate the efficiency of Endolift®, a novel minimally invasive outpatient laser procedure, for the nonsurgical treatment of eyelid ptosis. Thirty patients aged 30 to 55, 15 women and 15 men, were enrolled on this study. All patients had skin ptosis of the upper eyelids and the eyebrow area and dropping of the lateral part of the eyebrow. Patients have undergone a single treatment under micro drops of local anaesthesia. Treatment was performed using the Endolift® procedure, consisting of the device Eufoton® LASEmaR® 1500. This device uses a 1470 nm wavelength laser lead by micro-optical fibres of different calibres directly inside the skin. Twenty-four reported optimal results, 4 very good and 2 moderate. The first results were visible after 5 to 14 days and improved over time, and the average downtime was between 2 and 3 days due to the swelling. No other side effects were observed. These data confirm that Endolift® is a safe and effective procedure for the nonsurgical treatment of eyelid ptosis representing a real alternative to surgery.

INTRODUCTION

Eyelid ptosis is a common disturbance. Over time, due to lipodystrophy and the thinning sizing of the skeleton, the eyebrows decline and, at the same time, pull down the upper eyelids; due to that, skin ptosis is overcome under the eyebrows (a very common disturbance for Asian patients). Usually, this happens around 35 years of age, and very often, there is a genetic influence. Therefore, before treating the eyebrows and upper eyelids, we must determine the skin ptosis of the eyebrow area because, in a short time, the eyebrow can pull down the upper eyelids. These conditions can obstruct vision and interfere with daily activities, such as reading and, more dangerous, driving (1).

Associated complaints include forehead muscle fatigue from a continuous effort to raise the eyelids, neck soreness, and a sad or tired appearance. In 60% of cases, ptosis results from age-related stretching and the levator aponeurosis dehiscence. Other causes may be traumatic (11%), congenital (10%), mechanical (9%), neurogenic (6%), or myogenic (4%) (2). Ptosis is typically corrected by outpatient surgery performed under local anaesthetic. Postoperative satisfaction is high, and many patients experience substantial improvement in functional status and appearance (3).

Nevertheless, there are different treatments to correct eyelid ptosis, such as fillers, fat transfer, lasers and radio frequency (4). In this paper, Endolift® treatment for the nonsurgical treatment of the eyebrows and upper eyelids represents minimally invasive treatment. The treatment is made with Eufoton® LASEmaR® 1500, wavelength 1470 nm, and only 1 session is enough. The underlying principle is to promote neocollagenesis and skin shrinkage due to the optical energy of the laser.

MATERIALS AND METHODS

The study was performed on 30 patients of both sexes (15 women and 15 men) aged 30 to 55 years. All patients had skin laxity of the upper eyelids and the eyebrow area and dropping of the lateral part of the eyebrow. Patients under micro local anaesthesia underwent only 1 session of treatment with the Endolift® procedure. 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 (also certified and approved by the American FDA). In the present work, Endolift® treatment consisted of the insertion under the skin of a 200 microns laser fibre with radial emission. The Eufoton® LASEmaR® 1500 utilizes a wavelength of 1470 nm. Laser fibre was positioned vertically. Eufoton® LASEmaR® parameters were set as follows: laser power 2 Watts, repeated pulsed mode, pulse duration 25 ms with pause 50 ms, with an average of 100 - 130 Joules per eyelid/side.

During and after treatment, skin air-cooling was used. The entry point was at the lateral part of the eye orbit, at the eye wrinkles area. Eye protection was achieved by intraocular metal shields or metal shields over the eye, and the lateral part of the orbit, eyebrow area, under eyebrow area temporal and forehead area were treated. During the treatment, avoiding nerve injury and respecting anatomy is essential. In addition, the treatment aims to promote neocollagenesis and skin shrinkage due to the optical energy of the laser.

RESULTS

Of the 30 patients enrolled (15 women and 15 men) with an age range of 30 to 55, 24 reported optimal results, 4 very good and 2 moderate. The first results were visible after 5 to 14 days improving results over time. Then, we did follow-ups over 1, 3, 6, 9 and 36 months. After 10-12 months, all patients reached the final expected result; nevertheless, the average duration of all treatments is 3 to 5 years. The average downtime was between 2 and 3 days due to the swelling. No other side effects were observed (Fig. 1, 2).

Fig. 1. *Nonsurgical eyelid ptosis. Treatment ENDOLIFT® - Eufoton® LASEmaR® 1500, 1470-nm.* ***Left****: before.* ***Right****: after one session.*

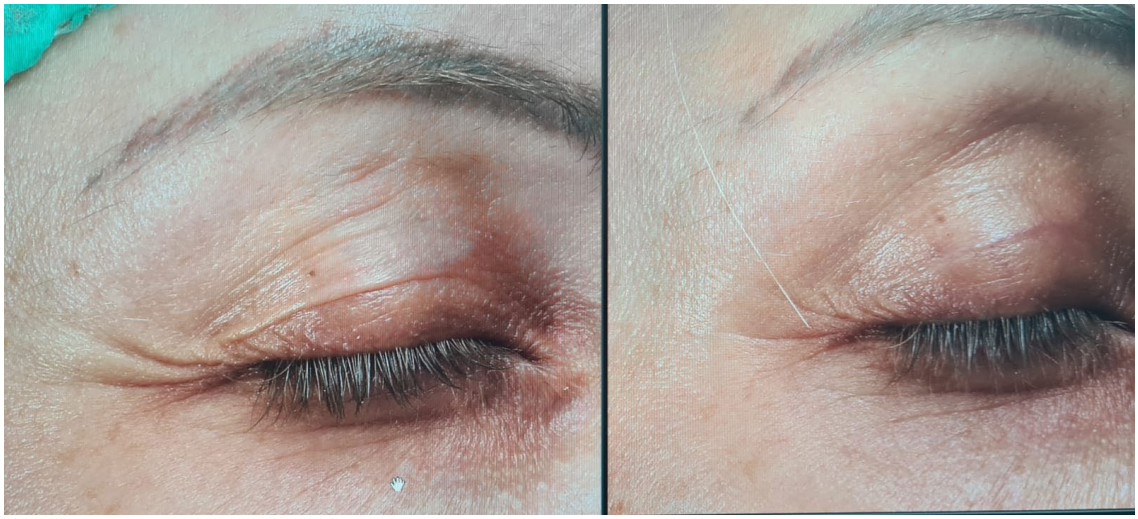

Fig. 2. *Nonsurgical eyelid ptosis. Treatment ENDOLIFT® - Eufoton® LASEmaR® 1500, 1470-nm.* ***Left****: before.* ***Right****: after one session.*

DISCUSSION

Endolift® efficacy, a novel minimally invasive outpatient laser procedure for the nonsurgical treatment of eyelid ptosis, was performed on 30 patients in the range of 30 to 55 y-o, 15 women and 15 men. 24 reported optimal results, 4 very good and 2 moderate. These data confirm that Endolift® is a safe and effective procedure for the nonsurgical treatment of eyelid ptosis representing a real alternative to surgery (5).

REFERENCES

1. Zoumalan CI, Lisman RD. Evaluation and management of unilateral ptosis and avoiding contralateral ptosis. Aesthet Surg J 2010; 30(3):320-8.
2. Lim JM, Hou JH, Singa RM, et al. Relative incidence of blepharoptosis subtypes in an oculoplastics practice at a tertiary care center. Orbit 2013; 32(4):231-4.
3. Frueh BR, Musch DC, McDonald HMB. Efficacy and efficiency of a small-incision, minimal dissection procedure versus a traditional approach for correcting aponeurotic ptosis. Ophthalmology 2004; 111(12):2158-63.
4. Mancini R, Khadavi NM, Goldberg RA. Nonsurgical management of upper eyelid margin asymmetry using hyaluronic acid gel filler. Ophthalmic Plast Reconstr Surg 2011; 27(1):1-3.
5. Li T, Liu HP, Wang JQ, Zhang D. Role of Orbicular Oculi Muscle Resection in Double Eyelid Surgery to Correct Ptosis of Young Adults: A Retrospective Review in 121 Chinese Patients. Ann Plast Surg 2021; 86(3):257-264.