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THERAPEUTIC HOTLINE

Eyelid milia en plaque: a treatment challenge with a new CO_2 fractional laser

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ABSTRACT: Milia en plaque (MEP) is an uncommon finding characterized by numerous tiny milia within an erythematous area.

Despite its benign and asymptomatic nature, MEP raises cosmetic concerns; moreover, the available treatment modalities for MEP are limited. In view of the few cases described in the literature, no consensus has been reached, with respect to the optimal treatment for MEP, and the choice of therapy should be individualized.

We report a case of eyelid milia en plaque successfully treated with a new CO_2 fractional laser that is able to ensure superficial ablation of the epidermis remodeling tissue in-depth, with minimal thermal damage and extremely rapid recovery time.

The results obtained after only two treatments were good, no scarring or dyschromic changes have been registered. At 1 year, just few recurrent milia were present.

KEYWORDS: eyelid, fractional laser, milia en plaque

Introduction

Milia en plaque (MEP) is an unusual variant of milia characterized by multiple cutaneous lesions, consisting of milia, on an erythematous or infiltrated plaque.

Although benign, the lesion's appearance may be distressful to the patient, who may request treatment for this reason.

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Only 30 cases have been reported in literature up until now and no treatment has proven to be the one of choice.

We herein present a case of an eyelid MEP successfully treated with a new carbon dioxide (CO_2) fractional laser (SmartXide2, DEKA M.E.L.A., Calenzano, Italia). This technology develops different pulse shape (such as S-Pulse, D-Pulse and H-Pulse) to ensure a superficial ablation of the epidermis and a localized release of the heat deeper in the dermis.

Case report

A 21-year-old Caucasian girl, Fitzpatrick skin type II, presented with a 6-year history of recurrent

eyelid MEP, strongly complaining as her quality of life was seriously impaired. Clinical examination revealed a plaque involving almost completely the left upper eyelid (FIG. 1), causing a slight asymmetry with the contralateral side.

Previous treatments included topical tretinoin, oral minocycline and simple extraction with only temporary improvement. The patient, due to its teratogenic side effects, refused also a course of acitretin, but she accepted to undergo CO_2 fractional resurfacing laser.

Two sessions have been planned. The first treatment consisted in manual extraction of the biggest cysts, followed by fractional resurfacing with the following parameters: high peak pulse mode, 8.8 mJ energy per pulse, 4 W power, 500 µm spacing. One passage only was performed.

In the second session, after 10 months, CO_2 resurfacing with the same parameters was repeated.

Treatments were done under topical anesthesia with 2% carbocaine and corneal shields were used to protect the eye. Ophthalmic antibiotic ointment was applied twice a day for 3 days. A sunscreen with SPF 50 during the first postoperative weeks was recommended.

The patient confirmed marked improvement of the lesions. No scarring, dyschromic changes or ocular complications have been registered. Only few milia recurred at 1 year. (FIG. 2).

Discussion

Milia are common superficial keratinous cysts that present as yellow dome-shaped papules. They may represent primary lesions when no cause can be identified or secondary variants usually following skin trauma or inflammatory skin diseases. Rarely, primary milia present as a localized plaque variant i.e., MEP. Such lesions are most often described around the ears (1). However, a small number of cases involving the eyelids have been documented (2).

In these cases, MEP represents an unpleasant condition and a therapeutic challenge. Many treatment modalities for MEP have been reported (3) such as simple extraction, topical tretinoin, oral minocycline, etretinate (4), cryosurgery (5), dermabrasion (6), trichloroacetic acid, electrodessiccation, photodynamic therapy with topical aminolevulinic acid, CO_2 (7), and erbium laser (8). Nevertheless, it should be noted that many of these treatments, although useful for retroauricular cases, are hardly feasible in case of eyelid lesions even by trained surgeon because of the easiness of mechanical or thermal injuring the eyelid skin.

Precisely for this reason, we considered a new fractionated laser which allowed treating all the erythematous area with a precise control of the thermal injury.

This new device uses a scanning system that generates thermal effects in micro areas; in this way, the stratum corneum is interrupted by thousands of microscopic wounds, creating columns of selective damage.

Thermal heat dispersion is thus limited, leaving intervening areas of normal skin untouched that allows rapid repair.

All this is very important especially for a delicate area as eyelid.

In the eyelid, skin is the thinnest and milia may be found at different depths, sometimes almost

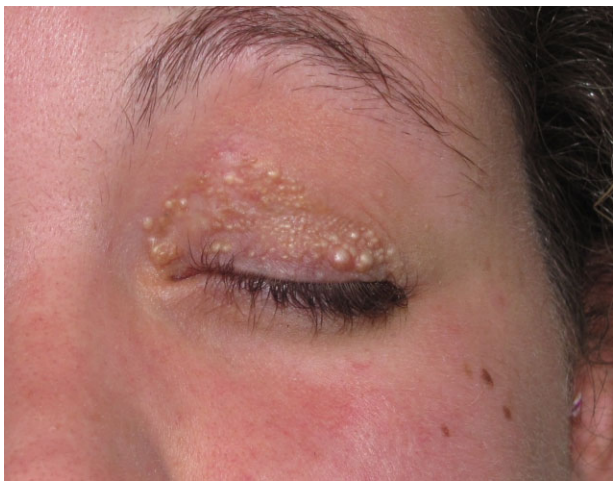

FIG. 1. Preoperative view.

FIG. 2. Postoperative view at 1 year follow-up.

adherent to the orbicularis muscle. Modulation of laser beam profile is thus crucial as it allows variable penetration of the heat so to achieve a better extraction of lesions.

As a matter of fact, our patient well tolerated the procedure and adverse effects were limited to mild erythema and edema, which resolved within a few days; use of make up was started after 1 week.

Oral antibiotics, pain medications or occlusive dressing were not needed in the postoperative time.

Compared with the procedures already described in literature to treat MEP, our approach proved to be simple to perform, easily reproducible and better tolerated by patients.

After only two sessions of 20 minutes, a considerable improvement of the pathology has gained; moreover, the short recovery time allows patient to have a normal, everyday social and work life.

Finally, it must be underlined that this kind of approach is particularly indicated for the eyelid where a decrease of the thermal injury avoids a major resurfacing effects and scarring. In other region, with thicker skin, a higher power would be preferable.

Conclusion

In view of the few cases described in the literature, no consensus has been reached with respect to the optimal treatment for MEP, and the choice of therapy should be individualized.

Although preliminary, our experience suggests fractionated laser can be a good option in MEP treatment for its minimal side effects especially in such delicate areas as the eyelid.

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