A RANDOMIZED, INVESTIGATOR-BLINDED TRIAL OF ALASTIN TOPICAL HEALING REGIMEN FOLLOWING IPL AND/OR PDL WITH Q-SWITCH-ALEXANDRITE AND FRACTIONATED CO_2 LASER RESURFACING OF THE FACE

Monique J. Wilson, MD;[1] Joanna Bolton, MD;[2] Sabrina Fabi, MD[1,3]

[1]Goldman, Butterwick, Groff, Fabi & Wu Cosmetic Laser Dermatology, 9339 Genesee Ave. Suite 300, San Diego, CA 92122.

[2]Alliant Dermatology 8620 E. County Road 466 The Villages, FL 32162.

[3]University of California, San Diego Department of Dermatology San Diego, CA.

Introduction

Though modern fractional ablative CO_2 lasers have decreased healing time and cause less pain, erythema, and dyspigmentation than traditional fully ablative lasers, the recovery time required after laser resurfacing remains a primary patient concern.

A novel Procedure Enhancement System (PES) combining pre and post-procedure topical anhydrous gel, ointment, and creams containing TriHex Technology™ was designed to promote extracellular matric (ECM) remodeling before and after procedures, improving skin responsiveness to treatment and minimizing post-procedure adverse effects. The PES also exhibits antioxidant properties to decrease inflammation and irritation to promote an accelerated epidermal healing process[1-4].

Objectives

To evaluate efficacy of healing and subject satisfaction with use of the PES following IPL and/or PDL with Q-switch-alexandrite and fractionated CO_2 laser resurfacing compared to standard of care.

Methods and Materials

Methods:

- Investigator blinded, randomized study, 15 female subjects aged 45-70 years underwent laser resurfacing of the face.
- Subjects were randomized to use of the PES (n=10) or a bland dimethicone-based ointment and petrolatum-based cream (n=5) for 3 weeks pre-, and 12 weeks post-procedure.
- A blinded investigator graded erythema, exudation and the percentage of surface area healed, as well as relative healing on post-procedure days 1, 3, 4, 7, 28, and 84.
- Patient feedback (daily diary) on symptomatology (burning, stinging, tender skin) was assessed at the same intervals.
- Subject self-assessment questionnaires were completed at days 28 and 84.
- All subjects underwent treatment with an IPL and/or PDL for erythema, as well as a QS-alexandrite laser to individual lentigines, immediately followed by a fractionated CO_2 laser resurfacing to the entire face (Fraxel; Solta Medical Inc., Hayward, CA, USA) plus or minus the 2940-nm erbium laser (Sciton Profile Contour Tunable Resurfacing Laser [TRL], Sciton, Inc., Palo Alto, CA) periocularly[5].

Materials:

- PES regimen is comprised of (Regenerating Skin Nectar™ with TriHex Technology™), a healing ointment (Soothe + Protect Recovery Balm), a moisturizer (Ultra Nourishing Moisturizer with TriHex Technology™), sunblock (Alastin Broad Spectrum SPF 30+) and a gentle cleanser (Alastin Gentle Cleanser)
- Standard of care regimen is comprised of dimethicone-based ointment (Vaniply), a petrolatum-based cream (Vanicream), SPF 30+ sunblock (Alastin Broad Spectrum SPF 30+) and a gentle cleanser (CeraVe® Foaming Facial Cleanser, Valeant Pharmaceuticals North America, Bridgewater, NJ)

Results

Investigator-rated healing was better for Alastin at each time point, reaching statistical significance at Day 7 (p=0.01) (Figure 1)

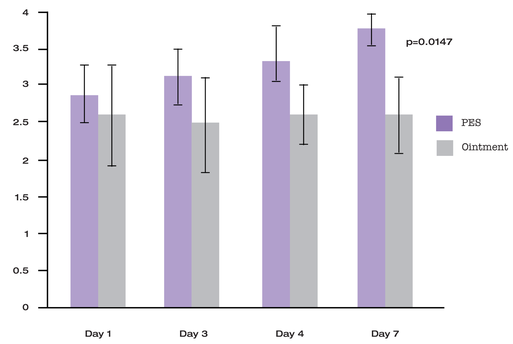


FIGURE 1
INVESTIGATOR RATED HEALING
(0=Poor, 1=Fair, 2=Good, 3= Very Good, 4=Excellent)

The PES group demonstrated less erythema and exudation during the first post-procedure week, reaching statistical significance at Day 3 (p=0.02 and 0.01, respectively Figure 2). Subjects using PES also reported less skin tenderness and burning/stinging, reaching significance on Day 3 (p=0.02 and 0.03, respectively Figure 3).

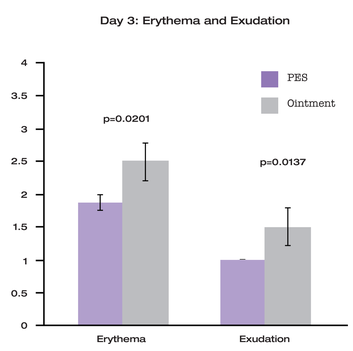


FIGURE 2
PHYSICIAN ASSESSMENT SCALE: 0=NONE, 4=SEVERE

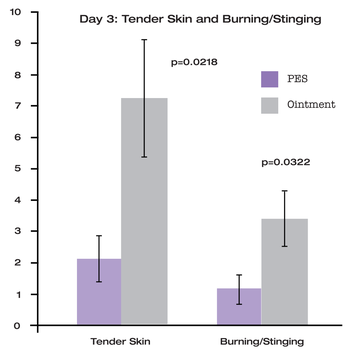


FIGURE 3
PATIENT REPORTED EXPERIENCE SCALE: 0-10

At Day 84, subjects using PES reported significantly higher satisfaction (p=0.03). They were also more likely to state “I would continue using this regimen” (p=0.03) (Figure 5), “I would recommend this treatment to others” (p=0.03) (Figure 6), and that the product “Made me feel more confident in the way my skin looks” (p=0.02) (Figure 4).

FIGURE 4

Made me feel more confident in the way my skin looks

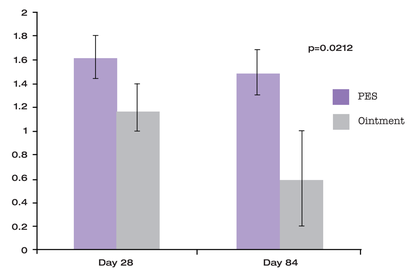


FIGURE 5

I would continue using this regimen

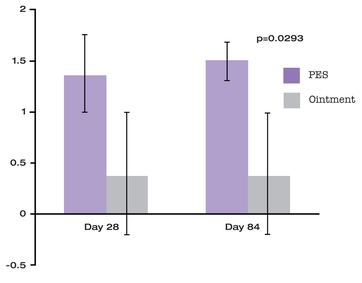
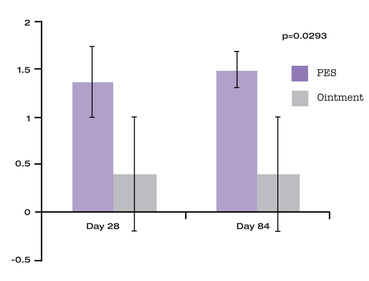


FIGURE 6

I would recommend this treatment to others



Clinical Examples

Conclusion

In this study, PES was a safe post-procedure topical regimen that improved healing after facial resurfacing. Application of this system may produce improved skin quality and patient experience following laser resurfacing of the face.

REFERENCES

1. Widgerow AD, Fabi SG, Palestine RF, Rivkin A, Ortiz A, Bucay VW, Chiu A, Naga L, Emer J, Chasan PE. Extracellular Matrix Modulation: Optimizing Skin Care and Rejuvenation Procedures. J Drugs Dermatol. 2016 Apr;15(4 Suppl):s63-71.
2. Puig A, Antón JM, Mangues M. A new decorin-like tetrapeptide for optimal organization of collagen fibers. Int J Cosmet Sci. 2008 Apr;30(2):97-104.
3. Floquet N, Hery-Huyhn S, Deuchez M, et al. Structural characterization of VBVAPG and elastin-derived peptide. Biopolymers. 2004;76:266-280.
4. Pickart L. The human tri-peptide GHK and tissue remodeling. J Biomater Sci Polym Ed. 2008;19(8):969-988.
5. Fitzpatrick RE, Goldman MP, Satur NM, Tope WD. Pulsed carbon dioxide laser resurfacing of photo-aged facial skin. Arch Dermatol. 1996;132(4):395-402.