

THE TOLERABILITY OF A SERUM WITH SILYMARIN, ASCORBIC ACID, FERULIC ACID, AND SALICYLIC ACID USED IN A REGIMEN WITH PRESCRIPTION ACNE MEDICATION

Authors: M. Kerscher¹, H. Choudhary², P. Brieva², S.White², Z. Draelos³

¹Division of Cosmetic Sciences, University of Hamburg, Germany; ²SkinCeuticals, New York, NY, USA; ³Dermatology Consulting Services, PLLC, High Point, NC, USA

Introduction:

Acne is an inflammatory condition common in adolescents, however blemish-prone skin can persist into adulthood termed Acne tarda. The pathogenesis of acne is characterized by increased sebum production, lipid peroxidation, *c. acnes* colonization, and inflammation, which manifest as inflammatory and noninflammatory acne lesions.¹⁻³ First-line acne treatment includes a combination of topical prescribed medications, with many of them being irritating and drying to the skin based on the characteristics of the active drug or the vehicle. Patients desire to optimize skin performance during acne treatment with antioxidant treatment; additionally, evidence shows certain antioxidants can reduce lipid peroxidation which may intervene in acne pathogenesis. Silymarin, an antioxidant derived from the milk thistle plant is shown to prevent oil oxidation that can contribute to blemishes and may thus serve as a promising ingredient for blemish-prone skin.⁴ We have previously reported that a topical serum containing 0.5% silymarin, 15% vitamin C, 0.5% ferulic acid, and 0.5% salicylic acid was effective in preventing or reducing lipid peroxidation based on several methodologies.⁵ The current study evaluated the tolerability and cutaneous benefits of this topical antioxidant serum containing silymarin as an adjunct to prescription acne medication in mainly female subjects with Acne tarda medication.

Material and Methods:

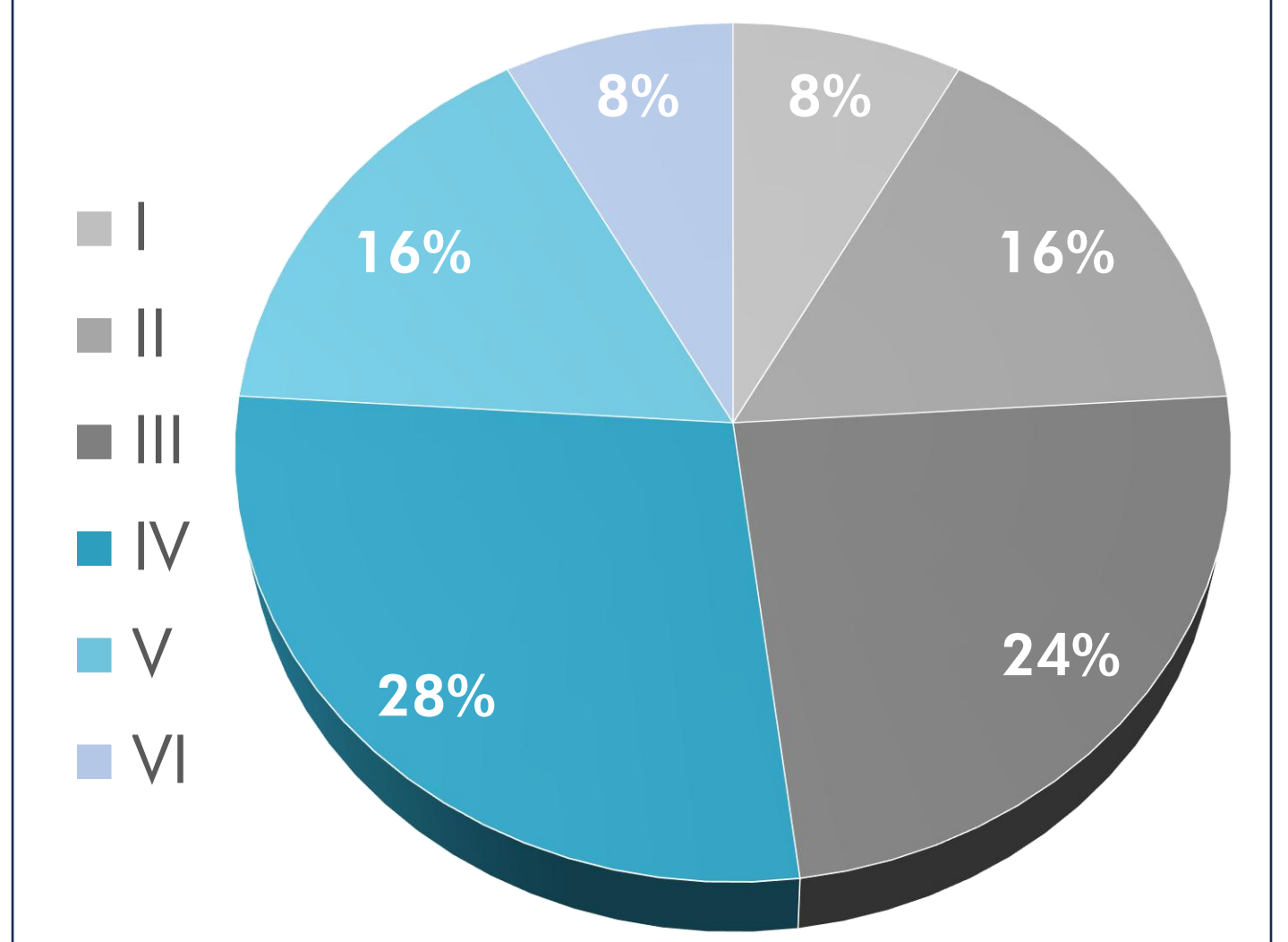
An international study (United States and Germany) examined the cutaneous benefits of a topical silymarin containing antioxidant serum for subjects, with acne or acne tarda, using prescription acne medications (Table 1).

Each country enrolled 20 healthy female and male subjects, age 18-50 years, of all Fitzpatrick skin types, in this international study (Figure 1). To their acne treatment regimen, subjects added a facial serum containing 0.5% silymarin, 15% vitamin C, 0.5% ferulic acid, and 0.5% salicylic acid. Investigators rated subjects for facial dryness, erythema, and edema. The subjects rated themselves for the facial sensory attributes of stinging, tingling, itching, and burning. All assessments were conducted on a 4-point ordinal scale along with facial photography at baseline and week 4. Subjects also completed a self-assessment questionnaire regarding skin clarity improvement, skin radiance improvement, skin oil presence, and product perception after 1 and 4 weeks of product use.

Table 1: Prescribed Acne Medications:

- Topical Benzoyl Peroxide
- Adapalene
- Tretinoin
- Tazarotene
- Clindamycin
- Oral Minocycline

Figure 1: Fitzpatrick Breakdown



Results:

After 4 weeks of adding serum to the subjects' prescribed acne regimen:

- Investigator assessment showed statistically significant reduction in facial erythema, dryness, and scaling (Figure 2).
- Subjects noted statistically significant reduction in facial tightness and dryness (Figure 3).

- After one week of use, 70% of subjects agreed the serum made their skin feel less oily.
- After 4 weeks of use, 58% of subjects felt the serum improved skin clarity and 50% felt the serum improved skin radiance.
- 58% of subjects desired to continue using the serum after completion of their prescription acne therapy.

Figure 2: Investigator Assessed Reductions in Key Facial Symptoms

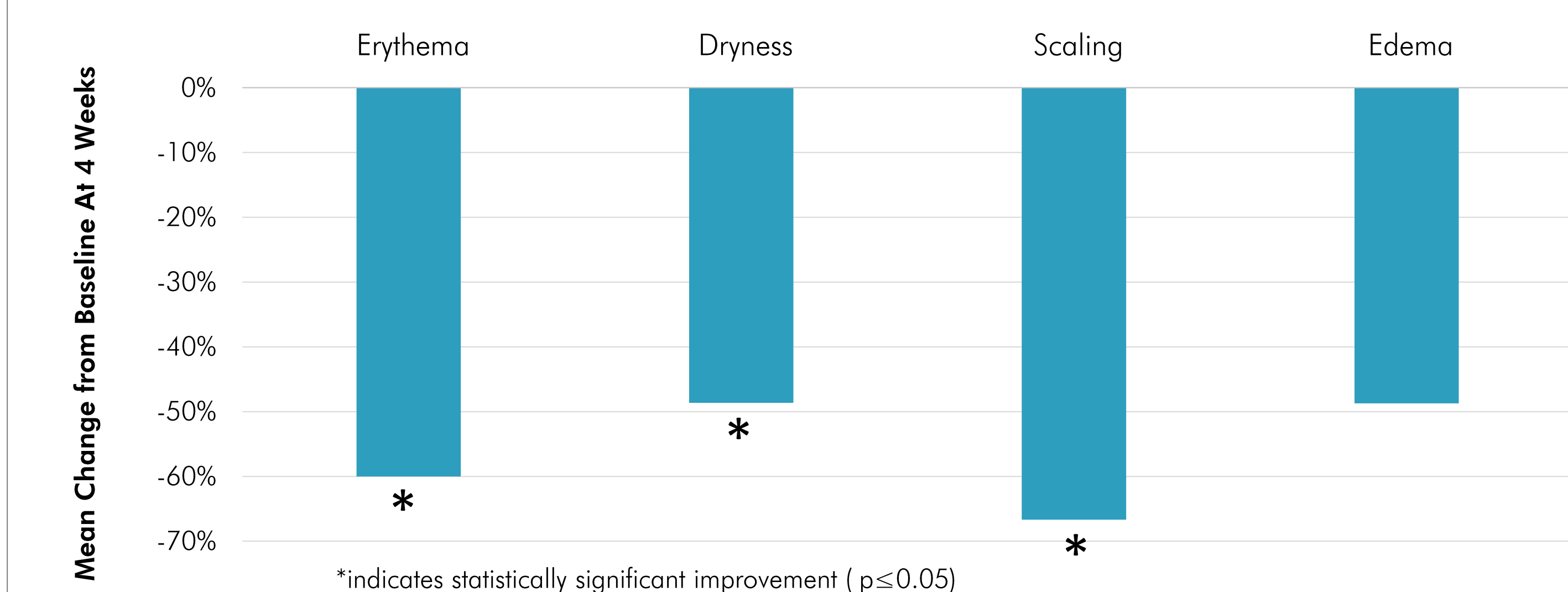
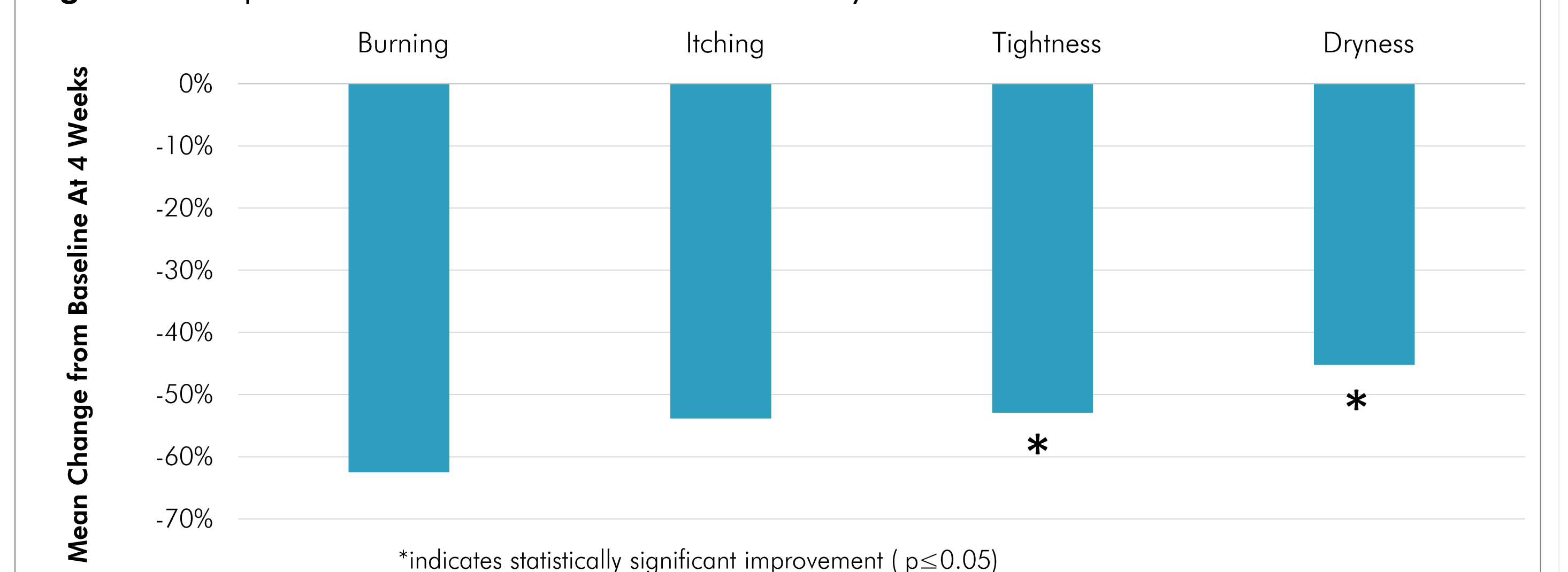
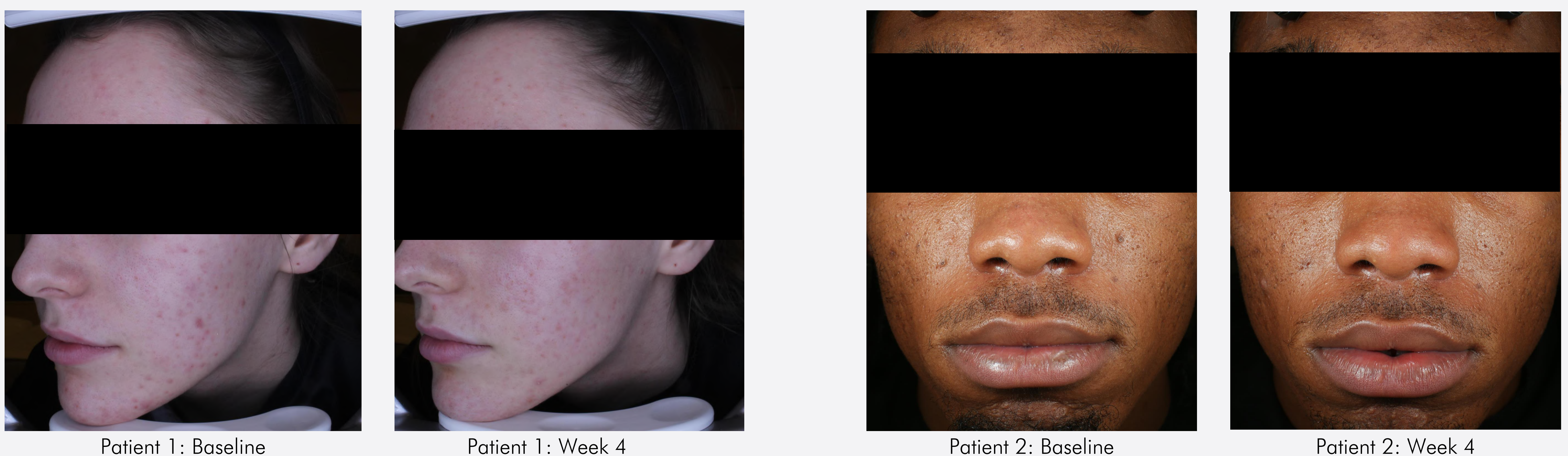


Figure 3: Subject Assessed Reductions in Facial Sensory Attributes



Clinical Photography:

Figure 4: Photographic Visualization of Facial Skin Tolerability Including Erythema, Dryness, and Scaling.



Patient 1: Baseline

Patient 1: Week 4

Patient 2: Baseline

Patient 2: Week 4

Conclusions:

After 4 weeks, more than half the subjects felt the silymarin antioxidant serum improved skin clarity and desired to continue using serum after completion of their prescription acne therapy. Silymarin antioxidant serum in combination with prescription acne treatments was found to be well tolerated and can be used to improve skin appearance, including in female subjects with acne tarda

Corresponding author: S.White

Conflicts of interest: M. Kerscher and Z. Draelos are L'Oréal consultants. All other authors are employees at L'Oréal Group.

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Disclosure: Support for this research was provided by L'Oréal Research & Innovation



25th World Congress
of Dermatology
SINGAPORE 2023



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