

A DERMOCOSMETIC ASSOCIATED WITH A FIXED COMBINATION OF ADAPALENE 0.1% AND BENZOYL PEROXIDE 5% HELPS TO PROTECT THE SKIN BARRIER IN MILD TO MODERATE ACNE

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INTRODUCTION

Acne is a chronic inflammatory skin condition associated with non-inflammatory lesions, inflammatory lesions and an altered skin barrier that can even be worsened by acne medications. The pathophysiology of acne is complex and multifactorial, comprising a peripheral hormonal factor and chronic stimulation of the innate immunity by commensal bacteria (*Cutibacterium. acnes* and *Staphylococcus epidermidis*) of the microbiome with a loss of diversity, as well as other internal and external factors called exposome factors.¹⁻⁵ The role of dermocosmetics in acne has become a topic of interest to physicians taking care of acne patients.^{6,7} Over-the-counter acne skincare is proposed to either manage milder forms of acne as a monotherapy of improve efficacy and/or improve tolerability of acne medications for an optimal compliance and patient satisfaction.¹ The tested dermocosmetic (hereafter ND) is a skin care developed for acne prone skin. The lightweight cream is easily absorbed and targets acne lesions whilst revitalizing and hydrating skin for up to 24 hours. ND skin care targets all acne pathogenic factors thanks to key ingredients such as salicylic acid 2% for exfoliating/comedolytic action, phyco-saccharide 2% to decrease sebum production, and vitamin CG to decrease inflammation, as well as ingredients that enable regeneration of the disrupted skin barrier such as mineralizing water 60%, Bifida ferment lysate 1%, and hyaluronic acid 0.2%.⁸⁻¹²

RESULTS

In total, 200 patients were recruited and 197 were analyzed. 76.6% were women, the mean age was 22.2±4.1. At baseline, the average total lesion count was 43.3 and 42.5 and the average non-inflammatory lesion count 25.6 and 25.4 in the ND+A-BPO and SE+A-BPO group, respectively; 52.0% and 56.6%, respectively had a GEA score II, the remaining scored III. Patient characteristics and acne data at baseline are provided in Table 1.

When using a sebumeter, ND+A-BPO tends to reduce more importantly sebum production after 12 weeks of use (-11.2±56.9 vs +1.4±38.6) compared to SE+A-BPO which did not change sebum production compared to baseline (Figure 1). A larger patient population may have allowed to show a significant difference in favor of ND+A-BPO.

ND+A-BPO significantly (p<0.001) improved skin hydration measured by corneometry (65.4 ±10.6 at week 12 vs 59.3±10.4) at baseline while no significant difference was observed in the SE+A-BPO group.

Subjects preferred ND+A-BPO over SE+A-BPO for its cleansing quality (85.3% vs 70.4%), its comfort (73.7% vs 59.1%) and improved skin texture (69.5% vs 50.0%); all p<0.05. At the end of the study, the total lesion count had decreased by 54.4±27.5% and 51.0±32.9% with ND+A-BPO and SE+A BPO, respectively and that of non-inflammatory lesions by 36.3±45.8% and 31.5±61.2%, respectively (Figure 2); differences compared to baseline were statistically significant (p<0.05) at week 12 and in both groups. Although non-significant, there was a trend for a clinically relevant better improvement of the GEA score in patients using ND compared to the SE (improvement of GEA score of at least one grade in 75.5% of subjects at week 12 with ND+A-BPO compared to 67.3% with SE+A-BPO). A larger patient population may have allowed to show a significant difference in favor of ND+A-BPO.

Figure 3 provides details for the evolution over time of GEA grades and Figure 4 of shifts between baseline and week 12.

Tolerance was good with no difference between both groups for clinical signs and symptoms and with no product related adverse events.

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Conflict of interest
Brigitte Dréno received honoraria from Vichy Laboratories. Delphine Kerob is an employee of Vichy Laboratories. The other authors have no conflict of interest to disclose.

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Table 1 PATIENT DEMOGRAPHIC AND ACNE BASELINE DATA

Parameter		ND skin care	Standard emollient	Total
Gender	Female	72 (73.5%)	79 (79.8%)	151 (76.6%)
	Male	26 (26.5%)	20 (20.2%)	46 (23.4%)
	Total	98 (100.0%)	99 (100.0%)	197 (100.0%)
Age	N	98	99	197
	Mean±SD	22.5±4.4	21.8±3.7	22.2±4.1
	Min;Max	16.2 ; 35.3	16.0 ; 34.8	16.0 ; 35.3
	Median	21.3	20.8	21.2
	Missing	0	0	0
Non-inflammatory lesions	N	98	99	197
	Mean±SD	25.6±15.7	25.4±16.5	25.5±16.1
	Min;Max	0.0 ; 87.0	0.0 ; 115.0	0.0 ; 115.0
	Median	23.0	23.0	23.0
	Missing	0	0	0
Inflammatory lesions	N	98	99	197
	Mean±SD	17.7±6.4	17.1±4.9	17.4±5.7
	Min;Max	12.0 ; 46.0	12.0 ; 33.0	12.0 ; 46.0
	Median	16.0	16.0	16.0
	Missing	0	0	0
Total number of lesions	N	98	99	197
	Mean±SD	43.3±18.5	42.5±17.9	42.9±18.2
	Min;Max	15.0 ; 100.0	14.0 ; 131.0	14.0 ; 131.0
	Median	41.0	39.0	41.0
	Missing	0	0	0
GEA grade	Grade 2	51 (52.0%)	56 (56.6%)	107 (54.3%)
	Grade 3	47 (48.0%)	43 (43.4%)	90 (45.7%)
	Total	98 (100.0%)	99 (100.0%)	197 (100.0%)
Sebumetry	N	35	38	73
	Mean±SD	137.5±48.3	141.4±45.7	139.5±46.7
	Min;Max	39.0 ; 221.0	23.0 ; 221.0	23.0 ; 221.0
	Median	138.0	133.0	138.0
	Missing	0	0	0
Corneometry	N	35	38	73
	Mean±SD	59.3±10.4	60.0±12.4	59.7±11.4
	Min;Max	45.0 ; 80.7	31.3 ; 88.3	31.3 ; 88.3
	Median	58.5	60.8	60.0
	Missing	0	0	0

Figure 1 SEBUMETRY OVER TIME

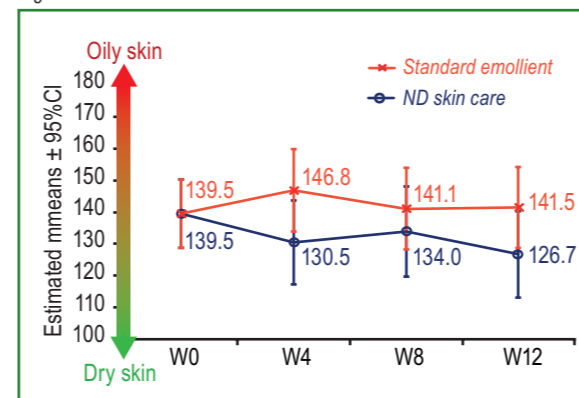
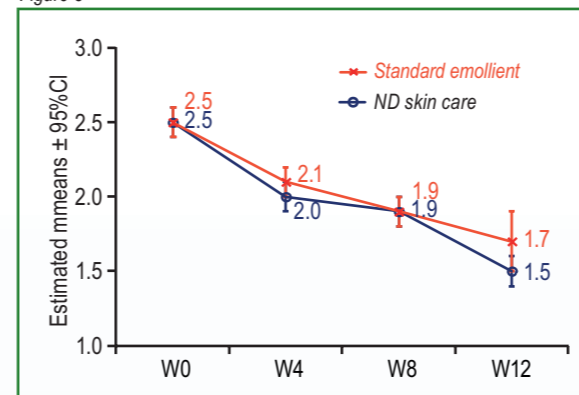


Figure 3 GEA EVOLUTION OVER TIME



CONCLUSION

ND skin care helps maintaining, efficacy and tolerability of A-BPO while enhancing skin hydration and decreasing sebum production, thus protecting the natural skin barrier. Even though there was no statistically significant difference in terms of efficacy between the 2 groups in combination to A-BPO, there was a trend in favor of ND skin care.

AIM

The aim of this study was to assess the efficacy and safety of an association of ND or a standard emollient (SE) and a fixed combination of adapalene 0.1% and benzoyl peroxide 5% (A-BPO) in patients with mild to moderate acne.

METHODOLOGY

This was a multicenter, randomized double-blind study in patients with mild to moderate acne (GEA score II to III) with at least 12 inflammatory lesions. A-BPO was either combined with ND or a standard emollient (SE) applied for 12 weeks once daily. Efficacy assessments included total and non-inflammatory lesions counts, GEA score, skin hydration through corneometry, sebumetry, local tolerance (signs, symptoms and adverse events) and patient satisfaction.

Figure 2 LESION COUNTS

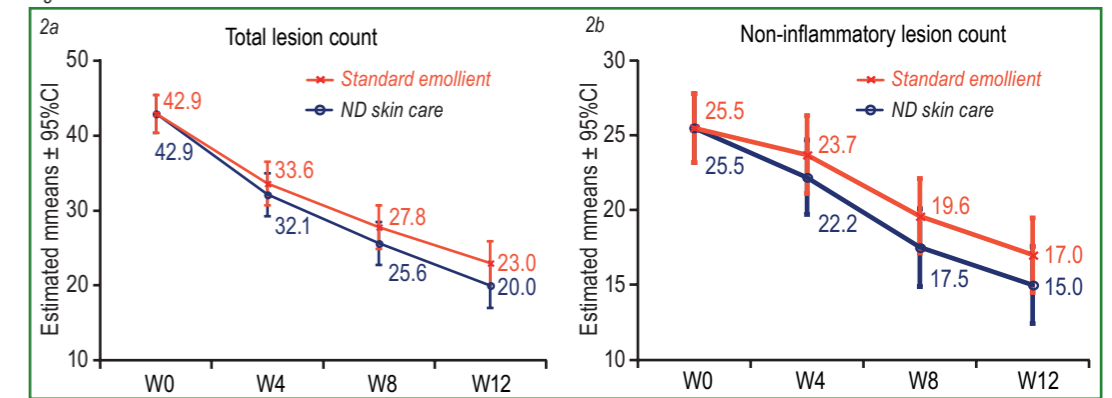
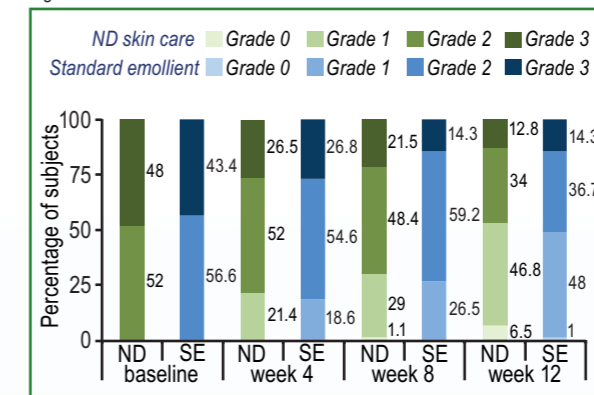


Figure 4 SHIFT OF GEA GRADES FOR ND AND THE STANDARD EMOLLIENT



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