EFFICACY OF AN EMOLLIENT CONTAINING UREA IN ADULTS SUFFERING FROM MILD TO MODERATE KERATOSIS PILARIS

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INTRODUCTION

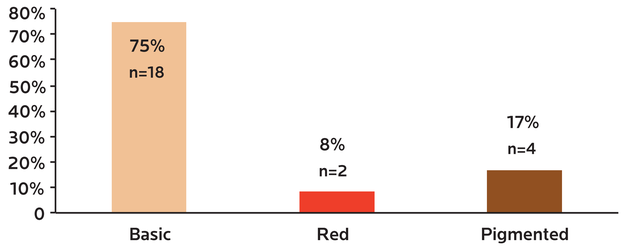
Keratosis pilaris (KP) is a common but under-evaluated skin disorder, which causes keratinous plugs in the follicular orifice, mostly on the arms and legs, associated with dryness and roughness. The primary objective of the study was to assess the efficacy of a dermocosmetic product (emollient) with regard to improving the skin condition of patients with keratosis pilaris.

METHODS

Patients with a minimum age of 18 presenting mild to moderate keratosis pilaris were included. The emollient was applied once daily for 2 months to one arm or one leg (right or left) according to a randomization list. The dermatologist assessed the clinical grade of KP, the KP extent (cm^2), the KP lesion count and dryness and roughness using a Visual Analogue Scale (VAS). The patient quality of life self-assessment was recorded using the Dermatology Life Quality Index (DLQI), global assessment by VAS, product acceptability and cosmeticity via questionnaires. To illustrate efficacy, C-cube® was used to measure erythema and roughness via 2D/3D acquisitions. Evaluations were performed at baseline and 14, 28 and 56 days after the start of treatment.

Grade	MILD (score 1) n=15 63%	MODERATE (score 2) n=9 38%

Type of keratosis pilaris

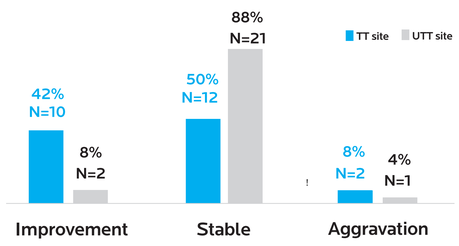


RESULTS

Twenty-four patients; 23 women (96%) and one men (4%) were included. At D56, the assessment by the dermatologist demonstrated 41.6% of patient are improved in KP grading (p=0.0209), a 28.9% decrease in the extent of KP (p=0.0122), and a decrease in dryness (89.5%) (p=0.0001) and roughness (56.3%) (p<0.0001) at the treated site on D56.

KP grading at D56

Evaluation of the KP grading at D56



Dryness evaluation

Evaluation of the dryness on the treated and untreated sites

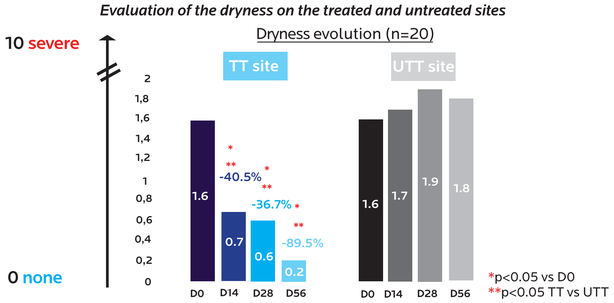
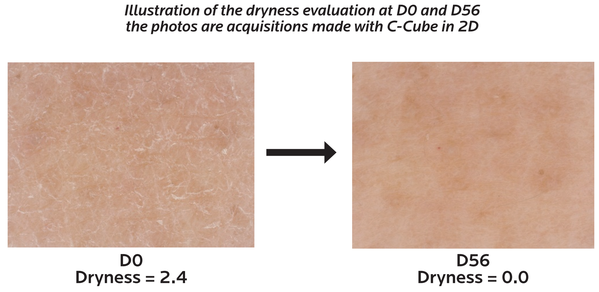


Illustration of the dryness evaluation at D0 and D56 the photos are acquisitions made with C-Cube in 2D



Roughness evaluation (by the dermatologist)

Evaluation by the dermatologist of the roughness on the treated and untreated sites

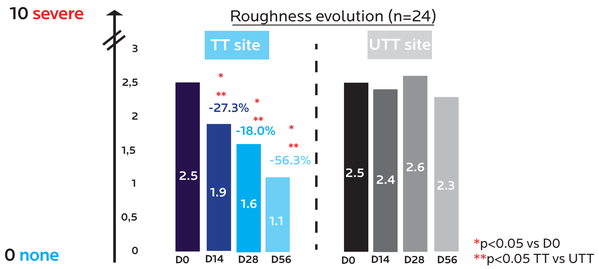
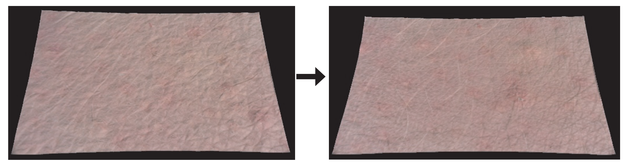


Illustration of the roughness evaluation at D0 and D56 (the photos are acquisitions made with C-Cube in 3D)



Results of the roughness evolution with the C-Cube pictures

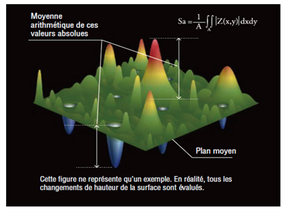
	Treated site			Untreated site		
C-Cube	D14-D0	D28-D0	D56-D0	D14	D28	D56
Roughness-Sa (µm)	-4.739%*	-4.318%*	-4.018%*	-2.199%*	-0.942%	-0.783%
Roughness-Sa (%)	-21.8%	-19.1%	-17.8%	-8.5%	-4%	-1.3%

*p<0.05 (versus D0)

Sa (µm) = the mean height of roughness compared to the mean plane of the surface, significantly decreased

C-CUBE analysis

The roughness observed with C-Cube® acquisitions (by biometric measurement)



These image analysis confirms the previous results of the dermatologist evaluation and the patient assessment.

The global assessment by the patient, including roughness and red/dark spots also showed a significant decrease of at least 40% (roughness p=0.0007; red/dark spots p=0.001) at D56.

Quality of Life

Compared to the untreated site, all these scores were significantly lower at D56. Compared to D0, the QOL had been improved significantly at D56 (-74.3% DLQI) with a marked impact on symptoms and feelings (-87.5%) and leisure activities (-78.8%). The quality of life of the patients is significantly improved even if KP has low impact on QoL according to patients enrolled in this study (low DLQI value at D0).

QoL evaluated with DLQI score

Evaluation of the DLQI at D0 and D56

Mean +/- SD	D0	D56	Variation D56/D0	Patients with improvement D56
DLQI global	5.9+/-6.6	1.3*+/-2.1	-74.3%* n=24	66.7%
Symptoms and feelings	1.4+/-1,4	0,2*+/-0.4	-87.5%* n=24	62.5%
Leisure	1.0+/-1,5	0,2*+/-0.5	-78.8%* n=24	37.5%

*p<0.05 (versus D0)

CONCLUSION

This study shows the effectiveness of an emollient containing urea against the symptoms of KP and particularly an improvement of KP grade and a decrease of KP extent. From D14, dryness and roughness were strongly improved. The quality of life of the patients is significantly improved at D56.
In addition, cutaneous acceptability was excellent for 100% of subjects.