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COSMETIC LABORATORIES

The efficacy of 1% hydrogen peroxide cream for acne vulgaris treatment

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INTRODUCTION

Acne vulgaris most commonly occurs during adolescence, affecting an estimated 80–90% of teenagers. However we observe increasing number of acne vulgaris in adults as well. Hydrogen peroxide is a chemical compound that finds use as a strong oxidizer, bleaching agent and disinfectant. Cosmetic industry offers a wide range of products for this condition, however hydrogen peroxide has not been very popular so far.

AIM OF THE STUDY

To evaluate the safety and anti-inflammatory, anti-bacterial and soothing effects of topical use of 1% hydrogen peroxide cream.

MATERIALS AND METHODS

The study was conducted on 19 volunteers with acne vulgaris between ages 16–61 years old. The product was used daily for a week. Skin condition was analyzed using VISIA system as well as by dermatologists according to the Hellgren and Vincent scale and via a questionnaire survey completed by volunteers after one week of product usage.

RESULTS:

	D0	D7	% of change
Severity of seborrhea	3,15	2,15	-31,7%
Number of pustules	1,23	0,46	-62,6%

Table 1. Dermatological evaluation of skin condition before and after 7 days of product usage according to 10-point analogue scale, where 10 means severe symptoms, 1/0 means mild or lack of the symptoms. Skin assessment revealed the reduction in the amount of pustules by 63% and reduction of the severity of seborrhea by 32%.

VISIA measurements n=12	D4 (decrease in symptoms in %)
Spots	-9%
Skin texture	-22%
Pores	-16%
Porphyrins	-18%

Table 2. Instrumental skin analysis evaluated by VISIA revealed significant decrease of porphyrins, pores and spots. Moreover skin texture was improved by 22% after 4 days of product usage.

Instrumental measurements n=12	D7 (decrease in symptoms in %)
Erythema level	-18%
SER – rigidity of epidermis	-23%
SESC – epidermis exfoliation with moisturization	-16%
VARIANCE – level of skin inequalities	-7%

Table 3. Instrumental skin analysis evaluated by Mexameter and Visioscan (Courage-Khazakha) revealed decrease in skin erythema as well as improvement in skin texture parameters after 7 days of product usage.

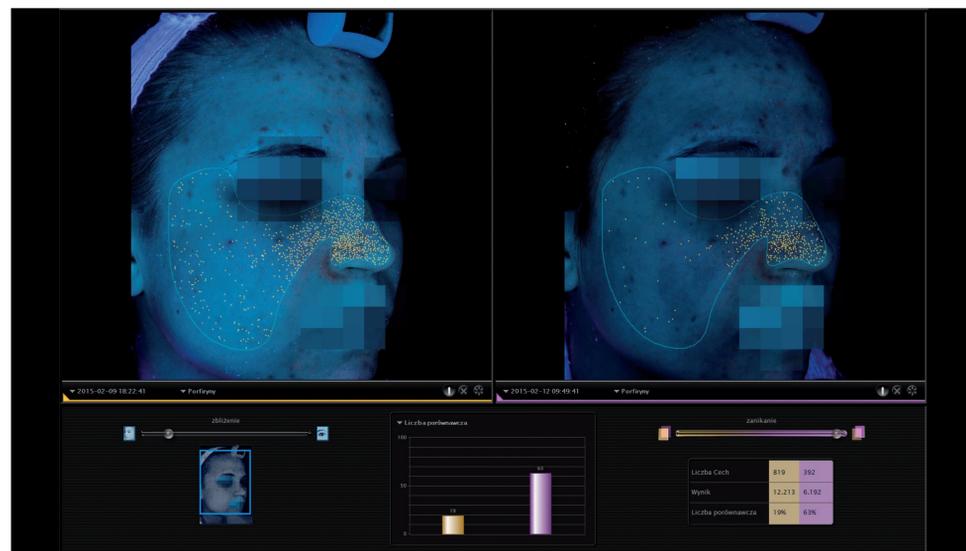


Figure 1. Instrumental skin analysis evaluated by VISIA of 18 years old subject after 4 days of product usage. The significant reduction of porphyrins is visible.

Effects of cream usage after 7 days of usage	According to dermatologist's evaluation	According to volunteers self-evaluation
Fights against existing acne lesions	54%	69%
Prevents from developing new acne lesions	31%	54%
Helps to regenerate skin faster	31%	54%
Heals the skin	46%	54%
Smooths the skin	38%	38%
Mattifies the skin	–	69%

Table 4. Comparison of effects of cream usage according to dermatologist's evaluation and volunteers self-evaluation.

CONCLUSIONS

Results of the presented study demonstrated that systematic application of 1% hydrogen peroxide cream significantly reduces skin inflammation, soothes and accelerates healing process as well as demonstrates great product tolerance. 1% hydrogen peroxide can supplement pharmacological treatment of acne vulgaris with mild to moderate course of disease.