

Author(s):

K. Pitera¹, R. Dębowska¹, M. Szubert², K. Kisiel³, Dzilińska³, K. Rogiewicz¹, I. Eris¹.

Institute(s):

¹Dr Irena Eris Cosmetic Laboratories, Dr Irena Eris Centre for Science and Research, Warsaw, Poland

²Dr Irena Eris Cosmetic Laboratories, Technological Department, Piaseczno, Poland

³Dermatology Centre, Miedzyleski Hospital, Warsaw, Poland

Title:

Mandelic acid cosmetic therapy in treatment of patients with acne vulgaris, rosacea and hyperpigmentation.

Introduction & Objectives:

According to the classification of the International Nomenclature of Cosmetic Ingredients (INCI) mandelic acid is an alpha hydroxy acid, harvested from the extract of bitter almonds by hydrolysis of benzaldehyde (C₆H₅CHO). Mandelic acid is used as the medical peel which gives very good results in the treatment of aging (keratosis actinica), melanodermitis, post-inflammatory hyperpigmentation, erythromelanosis follicularis, erythrosis pigmentaria faciei, hypermelanosis drug and freckles and acne scars. The use of the leave-on cosmetic products with mandelic acid has not been very popular so far. However, the number of leave-on cosmetics product with different PHA (poly-hydroxy acids) for home-use is increasing.

The aim of this study is to evaluate the safety and efficacy of cosmetic treatment with mandelic acid in patients with acne vulgaris, rosacea and hyperpigmentation.

Materials & Methods:

The cosmetic treatments were done in a group of 19 volunteers (12 people with acne vulgaris, 3 people with rosacea, 4 people with hand hyperpigmentation). The cosmetic treatment included antibacterial P037, bio-lotion P064, 20% mandelic acid P128, neutralizer P129 and soothing product P105.

The number of pores and blackheads, level of UV-spots and porphyrins, anti-redness and whitening efficacy, corneofix and subufix tests were analysed using Mexameter ® (Courage-Khazaka electronic GmbH) and Visia® Complexion Analysis (Canfield Scientific Inc.). Moreover, volunteers completed a questionnaire survey immediately after one treatment and a few days after three treatments.

Results

After single mandelic acid cosmetic therapy, in patients with acne vulgaris, erythema level decreased by 22%. Moreover, a number of UV-spots and the level of porphyrins was reduced up to 30% and 65%, respectively. After series of treatment the gradual decrease of porphyrins was observed (up to 95%) and a 20% reduction of pores number was noticed.

In patients with rosacea erythema level as well as porphyrins decreased by 13% and 14% and the number of pores was reduced by 9%. In group of people with hyperpigmentation after single mandelic

acid therapy skin was more radiance with less discolorations. A 28% reduction of scaliness (keratinized epidermis) was also observed.

Volunteers self-assessment confirmed whitening, anti-UV-spots and smoothing efficacy of the tested therapy. Patients noticed regression of existing acne lesions, reduction of erythema, sebum secretion, sebaceous glands size and decrease new acne lesions formation.

Conclusions:

In the presented research mandelic acid as a cosmetic therapy showed anti-acne efficacy after topical application in monotherapy. Mandelic acid does not cause discomfort, i.e. burning or redness after application to the skin. Exfoliation of the skin after treatment occurs gradually, as a gentle exfoliation. This process does not exclude patients from the normal activity.