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AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

## THE USE OF PYRUVIC ACID IN TREATMENT OF MELASMA: A CASE REPORT.

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Background: superficial peels hasten the effects of topical therapy in melasma1. We report a successful case of 50% Pyruvic acid (PA) in a patient with melasma.

Observation: A solution of 50% PA was applied to the face of a 52 yo woman with melasma (Fig 1) with a gauze pad for 2–4 min, until the appearance of erythema. PA was then inactivated by the application of a solution of 10% sodium bicarbonate in water. The posttreatment regimen consisted of cutaneous hydration and the daily use of a high-spectrum sunscreen during the whole treatment period. Treatments were repeated every 2 weeks for a total of 4 sessions (Fig 2). She presented thin desquamation 2-3 days after the procedure. Clinical improvement was noted after second session.

Key message: PA has not been used as a common agent in the treatment of melasma. It's an alfa-keto-acid that converts physiologically to lactic acid. Several properties of PA acid make it particularly effective as a topical peeling agent. At the epidermal level, application of 50% PA induces keratinocyte detachment, epidermolysis and thinning of the upper epidermal layers2. The chemical equilibrium with lactic acid under physiological conditions makes pyruvic acid a particularly effective and well-tolerated peeling agent3. Thus, PA it's an interesting adjuvant therapy to treat melasma.

1. Rashimi S et al. Effect of 82% lactic acid in treatment of melasma. Int Sch Res Notices. 2014 id407142.

2. Ghersetich L. Pyruvic acid peels for the treatment of photoaging. Dermatol Surg. 2004 Jan;30(1):32-6; discussion 36.

3. Moy LS, Peace S, Moy RL. Comparison of the effect of various chemical peeling agents in a mini pig model. Dermatol Surg 1996;22:429–32.





