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Transepidermal administration of tranexamic acid for treating melasma- A randomised double blind placebo controlled study

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Introduction: Melasma is an acquired condition that presents as tan to brown hyperpigmented macules which coalesce to form patches on the forehead, cheeks, nose and chin resulting in cosmetic concern to patients. A clinical trial of intradermal injections of tranexamic acid for melasma proved to be efficacious. We postulate the use of microneedling system, like dermaroller TM, to increase efficacy of tranexamic acid delivery by creating micro-channels may be utilised for treating melasma.

Aims and Objectives:

- To study the safety and efficacy of transepidermal administration of tranexamic acid 100mg/ml in treatment of melasma.
- To compare MASI scores, evaluated by a blinded investigator, at pre-treatment, week 2, week 4, and week 8.
- To evaluate physician global assessment, by a blinded investigator, at pre-treatment, week 2, week 4, week 8.
- To compare patient global assessment at pre-treatment, week 2, week 4 and week 8.
- To report any adverse effects of the procedure and treatment.

Material and Methods: Twenty patients, who fulfilled the inclusion criteria, were recruited for the split face prospective trial lasting 8 weeks. The test and control sides of the face of all subjects were randomised and one side received tranexamic acid 100mg/ml while the other side received placebo (normal saline solution), after creating micro-channels with dermaroller. The procedure was repeated at weekly intervals. All patients were photographed prior to starting the procedure (base line photographs) and then at weekly intervals prior to the procedure. MASI scoring was evaluated at each follow up prior to commencing the procedure.

Result: A total of 20 patients were enrolled for the study. There were no drop outs in the study and no adverse effects to the treatment modality were reported. There was a decreasing trend in the MASI results, which was evaluated by the blinded investigator, as the treatment continued on the test site as compared to placebo which remained static.

The physician global assessment scores showed no significance in the placebo site however there was significant improvement in the test sites.

The global assessment scores of the patients showed an improvement (p-value 0.001) in the test site as compared to the placebo sites which showed no significant trend (p-value more than 0.05).

Conclusion: Transepidermal delivery of 100mg/ml tranexamic acid with microneedling is a new and promising procedure to treat melasma.

Biography

Karishma Hemmady has completed her MD in Dermatology from MGM Institute of Health Science from Mumbai, India in 2014. She has also completed her Diploma in practical Dermatology from Cardiff University, UK in 2013. She is a Specialist Registrar in the Department of Dermatology at MGM Hospital, and a board member and consulting dermatologist at Ultra Derm Clinic, Pune, Maharashtra, India. Being research oriented, she has presented and published more than 10 papers in reputed journals and conferences.

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