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JOINT EVENT

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A single treatment of melasma using drug delivery with CO₂ fractional laser and a topical cream containing hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01%

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Background: Melasma is a chronic condition that causes hyperpigmentation of facial skin.

Objectives: The objective of the study is to evaluate the efficacy of CO_2 fractional laser and a cream (hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01%) using drug delivery protocol to treat melasma.

Methods: Thirty females with melasma were recruited from dermatology clinics. All patients signed an informed consent form. Photographs were taken before the treatment and a topical anesthetic cream was applied for half an hour. A $\rm CO_2$ fractional laser was used to treat the entire face at a fluence of 25-35 and a density of 10-15. Immediately after the laser treatment, face was cleansed and a topical cream containing hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01% was applied and massaged into the skin for several minutes. The cream was left on the skin and patients were instructed not to wash the face for four hours. They were advised to apply Aquaphor ointment for 3-4 days and use facial sunblock. Patients were seen a week after the treatment and advised to restart the topical cream every night. Patients were evaluated one, three and six months after the treatment.

Results: All subjects showed improvement varying from 25-90%. None of the patients developed infection, scaring or hypopigmentation. Some subjects had persistent erythema for up to a month after treatment, which resolved when topical cream containing hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01% application was changed from every night to three nights a week.

Conclusions: A single CO_2 fractional laser and a topical cream containing hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01% using drug delivery protocol to treat melasma is effective for the follow up period described. The safety of intra-dermal application of topical cream containing hydroquinone 4%, tretinoin 0.05%, fluocinolone acetonide 0.01% remains unknown.

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