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Obvious synergistic effect of fractional CO₂ laser before hair grafting on repigmentation in the treatment of refractory and stable vitiligo: a randomized prospective half lesion comparative study

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Background: Fractional CO₂ laser has been reported to be effective in the treatment of refractory and stable vitiligo.

Objectives: Our purpose was to evaluate the effect of the fractional CO₂ laser followed by follicular isolation hair transplantation in the treatment of refractory and stable vitiligo and comparing it with hair transplant alone.

Methods: A total of 20 patients with refractory and stable vitiligo presenting at our clinic were enrolled in this randomized prospective half lesion comparative study. Several resistant patches were selected in every patient and randomly divided to two parts and just one part (Part A) was treated with one session fractional CO₂ laser. After 5 days equal number of black graft were harvested from scalp and transplanted in both parts. After 5 days dressing the recipient areas were exposed to NBUVB phototherapy twice a week for 3 months. The diameter of repigmentation around each graft was measured monthly by caliper.

Results: After 3 months of examination perifollicular repigmentation was detectable surrounding the 74% of grafted hair follicles. At the end of the first, second and third months of examination the diameter of perifollicular repigmentation of part A was more than part B with 2.96 ± 0.7 mm relative to 2.51 ± 0.6 mm in the first month, 5.36 ± 4.6 mm relative to 3.59 ± 1 mm in the second month and 6.6 ± 5.8 mm relative to 4.3 ± 1.8 mm in the third month. There was statistically significant difference between the two groups after all three months of examination.

Conclusion: This study suggests that fractional CO₂ laser therapy followed by hair transplant alongside NBUVB photo therapy could be used effectively as an alternative modality for the treatment of refractory vitiligo. Despite promising results, additional studies are required to confirm our study.

Biography

Amir Feily is dermatologist and researcher in Skin and Stem Cell research Center of Tehran University of Medical Sciences, Tehran and Department of Dermatology of Jahrom University of Medical Sciences, Jahrom, Iran. He is the member of International Society of Dermatology, European Academy of Dermatology, Editorial Board of Journal Dermatology Report, Journal of Pigmentary disorder, Aperi Journal of Dermatology, Journal of Drug Metabolism and Toxicology, International Journal of Dermatology Research and Therapy and Associated editor of Asian Journal of Dermatology. He is also the reviewer of many dermatologic journals such as British Journal of Dermatology (BJD), International Journal of Dermatology (IJD), Clinical Experimental dermatology (CED), Journal of European Academy of Dermatology (JEADV) and etc. He has More than 74 high quality papers in Dermatology and Pharmacology. His recent two awards were 2013 Global Education Award, granted by International Society of Dermatology (IJD) and Imrich Sarkani Non-European Memorial award Granted By European Academy of Dermatology at 23rd EADV Congress Amsterdam, the Netherland 2014.

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