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Low-dose 1064-nm Q-switched Nd:YAG laser for the treatment of melasma in Asian patients

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Background: Melasma is a common acquired facial pigmentary disorder which is resistant to various modalities of treatment. Recently, the low-dose 1064 nm Q-switched neodymium-doped yttrium aluminum garnet laser (QSNY) has been accepted as the new gold standard of melasma treatment in Asia.

Objective: To evaluate the effect and safety of low-dose 1064-nm QSNY in Asian melasma patients.

Methods: Patients were treated for median 10 sessions (range 5-150) at median 1 week intervals (range 1-3) with QSNY (8 mm spot) at fluences of 1.2-1.7 J/cm^2 (n=40). The results were evaluated using the modified Melasma Area and Severity Index (mMASI) score. A patient satisfaction survey was completed utilizing a quartile scale.

Results: Total 38 patients were included for multiple regression analysis after excluding 2 patients, as special outliers, who received the treatment 137 and 150 sessions, respectively. The difference of mMASI scores before and after the treatment was significantly increased according to the number of treatment sessions (regression coefficient=0.049, p=0.003) after adjusting for sex, age and initial mMASI score. However, one of them and one of the two special outliers showed mottled hypopigmentation and rebound hyperpigmentation which is known to be an adverse event of laser toning. In a patient satisfaction survey, which was evaluated by quartile scale, result was reported as excellent improvement (15.8%), good improvement (34.2%), fair (31.6%) or poor (18.4%).

Conclusion: Low-dose 1064-nm QSNY appears to be a safe and effective treatment for Asian melasma patients.

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