

LASERS

ANALYSIS OF CLINICAL EFFECT OF Q-SWITCHED RUBY LASER DOT MATRIX MODE COMBINED WITH NEEDLE-FREE INJECTION OF TXA IN TREATING MELASMA

Zhe Jian⁽¹⁾ - Huanhuan Qu⁽¹⁾ - Gang Wang⁽¹⁾

Xijing Hospital, Fourth Military Medical University, Dermatology, Xi'an, China⁽¹⁾

Introduction: Melasma is a common and refractory skin disease, which has negative impacts on patients' psychology and social life.

Objective: We observed the curative effect of q-switched ruby laser dot matrix mode combined with needle-free injection of TXA in the treatment of melasma.

Methods: TXA was performed using the high pressure needle-free injection, which was injected for 3 times each side, and 2ml of TXA was introduced, with 1 treatment every 2 weeks and 5 times for 1 course. Each patient was randomly selected from half of the face for laser combination therapy: Q switch ruby (694nm) laser lattice mode, with the size of 7.1*7.1 cm² spots, energy density of 2.5-3.5 J/cm² 2-3 times was adopted, once every 2 weeks, 5 times for 1 course of treatment. The patients were photographed, and Visia and 3D skin detection were performed to record the melanin value before and after treatment.

Results: 40 patients were treated for 3 months. Both side facial melanin numerical and MASI scores were significantly decreased after second treatment. The combination with ruby laser therapy had more obvious improvement effects. After five times treatment, melanin numerical (86.3±9.2 vs. 52.5±7.6) and MASI score (16.5±4.6 vs. 9.3 ±3.1) significantly decreased ($P \leq 0.01$). 5 patients showed recurrence of melasma after discontinuation of treatment, and no adverse reactions including hyperpigmentation or hypopigmentation were found during treatment.

Conclusion: The combination treatment of Q-switched ruby laser dot matrix mode and needle-free TXA injection is a safe and effective therapeutic strategy in treating melasma.