

Efficacy and Safety of Picosecond Alexandrite Laser Therapy for Nevus of Ota: A Comparison with Q-switched Alexandrite Laser

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BACKGROUND

- The 755nm alexandrite laser is theorized to treat dermal melanocytosis, such as nevus of Ota, more effectively than the traditional Q-switched alexandrite laser.
- This study aims to compare the safety and efficacy of the 755nm alexandrite laser to the Q-switched alexandrite laser for the treatment of nevus of Ota in Asian subjects.

METHODS

- 54 subjects with a nevus of Ota lesion participated in a prospective, randomized, evaluator-blinded, split face clinical trial.
- Subjects underwent 3 treatments at 12-week intervals. Half of the lesion was randomly treated with a picosecond alexandrite laser and the other half with a Q-switched alexandrite.
- Three blinded dermatologists evaluated for clinical response at baseline, each treatment visit and 12 weeks post 3rd treatment using a 4-point rating scale (Figure 1).
 - Clinical effectiveness was designated as >60% of lesion clearance.
- The Global Aesthetic Improvement Scale (GAIS), pain rating, self-evaluation and adverse events were also assessed.

RESULTS

- Subject demographics:
 - 54 subjects: Male 46.4%, Female 53.6%
 - Age: 32.09±9.83 years
 - FST III: 19.6%, FST IV: 80.4%
- The picosecond alexandrite group had a total effective rate of 38.89% compared to 18.52% in the Q-switched alexandrite group.

RATING	PERCENTAGE (%) CLEARANCE
Cure	90-100%
Effective	60-89%
Fair	20-59%
Poor	0-19%

Figure 1. 4-Point Clinical Effectiveness Scale

- Mild hyperpigmentation was noted in 18.5% of picosecond laser treated area versus 22.2% of Q-switched alexandrite treated area. Transient mild edema and crusting was noted after treatment. There were no cases hypopigmentation or scar formation between the two groups.
- GAIS scores, pain rating and self-evaluation were similar between the groups.

CONCLUSION

- In comparison to the traditional Q-Switched alexandrite laser, the picosecond alexandrite appears to be more efficacious in the treatment of nevus of Ota in Asian skin based on the findings of this study. Side effects were comparable to the Q-Switched alexandrite and transient and mild in nature.
- The picosecond alexandrite laser is safe and effective for the treatment of nevus of Ota in Asian subjects.

