

POSTER PRESENTATION ABSTRACT

ACOS24-P-005: The Safety and Efficacy of Q-switched Nd:YAG 1064nm Laser and Pulsed Dye 595nm Laser Combined with High-Intensity Focused Ultrasound (HIFU) in the Treatment of Melasma among the Malaysian Population

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Melasma is a prevalent acquired hyperpigmentation disorder, usually affecting individuals with Fitzpatrick skin types IV to VI. This study aims to evaluate the efficacy and safety of Q-switched Nd:YAG 1064nm laser and pulsed dye 595nm laser treatment combined with high-intensity focused ultrasound (HIFU) in treating melasma among the Malaysian population. A retrospective analysis was conducted on 50 Malaysian patients with melasma, aged 30 to 70 years, who underwent treatment from January 2023 to February 2024. Patients were divided into two groups: Group 1 received 10 sessions of laser treatment alone, while Group 2 received the same 10 sessions of laser treatment combined with 3 sessions of high-intensity focused ultrasound (HIFU). Treatment outcomes were assessed using the modified Melasma Area and Severity Index (mMASI) scores at baseline, after five sessions, and after ten sessions. Statistical analyses, including repeated measures Analysis of Variance (ANOVA), were performed to compare the outcomes between both groups. Both treatment groups demonstrated significant reductions in mMASI scores over the treatment period. Group 1 (laser only) showed a decrease in mMASI score from 6.00 to 4.22, while Group 2 (laser combined with HIFU) showed a decrease in mMASI score from 5.91 to 4.20. However, the difference in efficacy between the two groups was not statistically significant ($p > 0.05$). In conclusion, our study shows that Q-switched Nd:YAG 1064nm laser and pulsed dye 595nm laser combined with high-intensity focused ultrasound (HIFU) appears to be a safe and effective treatment for melasma in patients with Fitzpatrick skin types III to IV. While both treatment modalities resulted in significant improvement in mMASI scores, further research with larger sample size is warranted to confirm these findings and explore the potential benefits of high-intensity focused ultrasound (HIFU) as an adjunct therapy.

Keywords: Melasma, Laser, Q-switched Nd:YAG 1064nm laser, Pulsed dye 595nm laser, High-intensity focused ultrasound (HIFU).