A comparison of two 810 diode lasers for hair removal: low fluence, multiple pass versus a high fluence, single pass technique.

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Abstract

BACKGROUND & OBJECTIVE:

Laser hair removal has become an increasingly popular method to remove unwanted or excessive hair. We have assessed the relative efficacy and discomfort associated with competing hair removal techniques, namely a high average power 810 nm diode laser using an “in-motion” technique with a market-leading 810 nm device with a single-pass vacuum-assisted technique. This study has determined the long-term (6-12 months) hair reduction efficacy and the relative pain induction intensities of these devices.

STUDY DESIGN/MATERIALS AND METHODS:

Prospective, randomized, side-by-side comparison of either the legs or axillae was performed comparing the Soprano XL 810 nm diode in super hair removal (SHR) mode (Alma Lasers, Buffalo Grove, IL) hereafter known as the “in-motion” device vs. the LightSheer Duet 810 nm diode laser (Lumenis) hereafter known as the “single pass” device. Five laser treatments were performed 6 to 8 weeks apart with 1, 6, and 12 months follow-ups for hair counts. Pain was assessed in a subjective manner by the patients on a 10-point grading scale. Hair count analysis was performed in a blinded fashion.

RESULTS:

There was a 33.5% (SD 46.8%) and 40.7% (SD 41.8%) reduction in hair counts at 6 months for the single pass and in-motion devices respectively (P = 0.2879). The average pain rating for the single pass treatment (mean 3.6, 95% CI: 2.8 to 4.5) was significantly (P = 0.0007) greater than the in-motion treatment (mean 2.7, 95% CI 1.8 to 3.5).

CONCLUSIONS:

This data supports the hypothesis that using diode lasers at low fluences and high average power with a multiple pass in-motion technique is an effective method for hair removal, with less pain and discomfort, while maintaining good efficacy. The 6 month results were maintained at 12 month for both devices.