ABSTRACT

Intense Pulsed Light (IPL) has been the standard for treating photodamaged non-ablative. This prospective, randomized, controlled, single-blind split-face trial compared two multi-technology broadband pulsed light platforms for the treatment of photodamaged skin. The Lumenis One system (Lumenis, Sunnyvale, CA) and the Harmony system (Alma Lasers, Vancouver, Canada) were compared for the treatment of dyspigmentation. The Lumenis One platform utilizes an 810-nm diode laser, a 530–590-nm yellow head, and a 515–595-nm green head. The Harmony platform uses a 578–1200-nm wavelength range with a 532-nm, 585-nm, and 1064-nm wavelength. The study aimed to compare the efficacy and tolerability of the two systems in treating dyspigmentation.

METHODS

Eight volunteers recruited from a single group practice received a series of three to five split-face treatments. Each treatment was spaced 3 weeks apart utilizing the Lumenis One system on one half of the face and the Harmony on the other. Parameters were chosen following a test pulse that achieved a clinical endpoint of mild erythema and heat. Patients were instructed not to actively tan between treatments. At least six manufacturers actively market IPL devices in the United States, and thousands of competing systems have been sold. However, to the author’s knowledge, no randomized split-face trial has been done comparing the efficacy of various IPL devices. The Lumenis One system is the most expensive system on the market, with a retail price of about $150,000, not including the add-on cost of additional light sources. The Harmony system is usually half the cost of traditional on-site technical support and provides more rapid turn-around time. The Lumenis One platform (left) with the Universal platform (right) is the most expensive I PL system. It is also the most extensive I PL system today, with multiple cut-off filters in the 515 to 755-nm range. The Lumenis One system is also quite large, at 154 kg, 67x47x159 cm, requiring it to be serviced on site. The Lumenis One system can also be equipped with a polarized light/585-nm hand piece and an 810-nm diode laser handpiece for hair removal. The retail price of the Lumenis One system (without the Universal I PL) handpiece costs about $50,000, not including the additional equipment.

The Harmony (Alma Lasers, Israel, US headquarters in Chicago) is a multi-technology broadband pulsed light platform that can accommodate 11 different wavelengths, doubling the treatment options. The device has a mean fluence of 500–1200 nm and is generally used for nonablative rejuvenation. It is also the most expensive I PL system on the market today, at about $90,000, not including the additional cost of additional light sources. The study was devised and funded by the author. The author has received honoraria and equipment discount from both Lumenis and Alma Lasers. The study was peer-reviewed and approved by the Vancouver Laser & Skin Care Centre Inc., Vancouver, B.C., Canada.

RESULTS

All eight patients completed the study. Two blinded dermatologists evaluated telangiectasia, erythema, pigment, and skin texture as graded on a scale of 1–4 (1=0–25% improvement, 2=26–50% improvement, 3=51–75% improvement, 4=76–100% improvement) and compared treatment and post-treatment photographs. Table II shows the results for the improvement of telangiectasia, erythema, pigment, and skin texture. After one month following treatment, using the Carfield Fiji 52 digital camera with a standard fixed local distance and chin rest to compare consistency, patients returned their faces prior to photography.

CONCLUSIONS

Treatment comparison of facial halves did not reveal any clinically obvious differences by investigator evaluation or patient self-assessment. Both treatments were well tolerated, with no difference in the incidence or profile of adverse effects. In an increasingly competitive marketplace, the Harmony platform has a clear advantage over the Lumenis One for a clinician who wishes to offer other advanced light-based modalities without purchasing another system.