The 1064-nm Nd:YAG laser is an effective tool for treating telangiectasia, but there are limitations due to the modest absorption. To overcome this, a 1.5-mm handpiece was developed for the Apogee Elite 1064-nm Nd:YAG laser platform (Cynosure, Inc., Westford, MA) to deliver higher fluences to superficial lesions with less discomfort to patients. The objective of this study was to evaluate the efficacy of this device for the treatment of telangiectasias. Bloom subjects presenting with facial or leg telangiectasias 0.2 to 1.0 mm in diameter were treated using the Apogee Elite equipped with a 1.5-mm handpiece. Subjects were treated by tracing the vessel(s) at 5 to 20-ms pulse duration and a fluence ranging from 500 to 800 J/cm² to cause either immediate vessel disappearance or coagulation. Subjects were evaluated at intervals of four to six weeks and received one or two additional treatments if necessary. The investigator graded lesions on a percentage scale (Poor=0–25%, Fair=26–50%, Good=51–75%, Excellent=76–100%) used to grade lesion clearance. Patient perception of pain, improvement and side effects were recorded. For the treatment of leg telangiectasias with a neodymium:yttrium-aluminum-garnet (Nd:YAG) laser, the device is FDA cleared for a variety of cosmetic indications including hair removal, vascular and pigmented lesions, and skin rejuvenation. A 1.5-mm handpiece was developed for this device to deliver higher fluences to superficial lesions.

**METHODS**

Eleven patients (10 women), presenting with facial or leg telangiectasias 0.2 to 1.0 mm in diameter, were treated using an Apogee Elite Nd:YAG laser equipped with a 1.5-mm, non-contact handpiece. Vessels were treated by tracing the vessel(s) at 5 to 20-ms pulse duration and fluences ranging from 500 to 800 J/cm². Subjects were evaluated at intervals of three or fewer treatments for the treatment of leg telangiectasias with a neodymium:yttrium-aluminum-garnet (Nd:YAG) laser. The device is FDA cleared for a variety of cosmetic indications including hair removal, vascular and pigmented lesions, and skin rejuvenation. A 1.5-mm handpiece was developed for this device to deliver higher fluences to superficial lesions. The investigator graded lesions on a percentage scale (Poor=0–25%, Fair=26–50%, Good=51–75%, Excellent=76–100%) used to grade lesion clearance. Patient perception of pain, improvement and side effects were also noted.

**RESULTS**

Among the 11 patients, 50 sites were treated. Of these, Excellent clearance was achieved for eight lesions (16%) with the first treatment, 20 lesions (40%) with the second treatment, and 15 lesions (26%) with a third treatment. Of the remaining nine lesions requiring a third treatment, seven did not resolve. A percentage scale (Poor=0–25%, Fair=26–50%, Good=51–75%, Excellent=76–100%) was used to grade lesion clearance. Patient perception of pain, improvement and side effects were also noted.

**DISCUSSION**

Recent studies by Bäumer and colleagues (10) and Parlette et al. (11), devoted to finding optimal parameters for Nd:YAG treatment of leg veins, seem to confirm the hypotheses of Ross and Domankovitz (9) and colleagues that longer pulse durations may provide gentler heating of vessel and increase the ratio of contraction to thrombosis. The Bäumer study found that smaller spot sizes with moderate fluences (300–400 J/cm²) and longer pulse durations (10–100 ms) were most effective and most tolerable to patients. In the present study, pulse duration was lengthened but not maximized as well. All subjects exhibited at least 50% improvement overall. Twenty-eight (72%) lesions resolved after one or two treatments. Twenty-eight (72%) lesions resolved after one or two treatments. Post-treatment hyperpigmentation was seen in veins that were more erythematous in color. Clinical examples are shown in Figure 7–9.

Subjects described discomfort as minimal to moderate. Side effects included minimal to moderate edema, erythema, and pigmentation. No purpura, scarring, or textural changes were reported or observed.

**REFERENCES**