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**Abstract**

**OBJECTIVE:** To determine if laser therapy is superior to liquid nitrogen for the treatment of solar lentigines and if so, to determine if one laser is superior to the other lasers that were tested.

**DESIGN:** Randomized, controlled, comparative study with blinded observers.

**SETTING:** University-based dermatology clinic.

**PARTICIPANTS:** Twenty-seven patients with multiple solar lentigines on the backs of both hands.

**INTERVENTIONS:** Liquid nitrogen cryotherapy, the Medlite II frequency-doubled Q-switched Nd:YAG laser (Continuum Biomedical, Livermore, Calif), the HGM K1 krypton laser (HGM Medical Laser Systems Inc, Salt Lake City, Utah), and the DioLite 532-nm diode-pumped vanadate laser (Iridex Corp, Mountain View, Calif).

**MAIN OUTCOME MEASURES:** Photographs of the hands were taken prior to and 6 and 12 weeks following treatment. Blinded observers and patients evaluated each treatment on its ability to lighten pigmented lesions without causing unwanted adverse effects.

**RESULTS:** Many new laser systems claim an advantage for treating pigmented lesions by selectively destroying melanin. In this study, the frequency-doubled Q-switched Nd:YAG laser was most likely to provide significant lightening (P<.05), followed by the HGM K1 krypton laser, the 532-nm diode-pumped vanadate laser, and liquid nitrogen. The frequency-doubled Q-switched Nd:YAG laser also had the fewest adverse effects (P<.05), while the HGM K1 krypton laser had the most (P<.05). Of the 27 patients, 25 preferred laser therapy to cryotherapy, with the frequency-doubled Q-switched Nd:YAG laser being the most popular.

**CONCLUSIONS:** Laser therapy is superior to liquid nitrogen for the treatment of solar lentigines. Of the laser systems tested in this study, the frequency-doubled Q-switched Nd:YAG laser is the most effective.

**Comment in**


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