

Microdermabrasion, 1064nm Nd:YAG laser a mighty duo

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Dr. Copeland

Atlanta - Optimum skin rejuvenation can be achieved using a resurfacing technique combining microdermabrasion followed immediately by treatment with a 1064nm Nd:YAG laser, said Michelle A. Copeland, D.M.D., M.D., at the annual meeting of the American Society for Laser Medicine and Surgery.

The dual regimen is performed as a series of treatments and has been used to target mild-to-moderate signs of aging skin and acne scarring. Dr. Copeland reported having performed this combined procedure - with an excellent safety profile and no complications - during the past three years in a series of about 200 patients.

Each subject was treated during three to four months at intervals of a week to four weeks, and more than 90 percent reported satisfaction with the clinical improvements they achieved. In addition, those who had been treated previously with either modality alone noted the combination approach yielded more marked changes. Few patients - 6 percent - did not complete the entire series of treatments for various reasons, and only 2 percent felt the rejuvenation program was not improving their appearance, reported Dr. Copeland, assistant professor of surgery, Mt. Sinai School of Medicine, New York.

Outcome investigations also included histological analyses comparing post-treatment skin with control samples taken pretreatment and from untreated areas. The microscopic evaluations showed epidermal changes, as well as improvements in the elastic quality of the skin with evidence of reparative fibroplasia.

"Both microdermabrasion and the Nd:YAG laser treatment remove cells from the superficial skin and thereby stimulate the epidermis to regenerate itself and lead to improvements in pigment discoloration and skin surface texture. However, our histologic studies show this combination approach is associated with deeper remodeling of subepidermal tissues that appears to account for its enhanced ability to induce skin tightening and minimize the appearance of fine rhytides and acne scars. We believe that by abrading the epidermis prior to treatment with the Nd:YAG laser, we can increase the depth of the treatment effect and achieve improved cosmetic outcomes for patients seeking help for acne vulgaris scars, facial rhytides, or laxity of facial skin," Dr. Copeland said.

The patients included in Dr. Copeland's series ranged in age from 17 to 90 years and had an average age of 50. The vast majority of patients were seeking to decrease fine lines and tighten skin around the jowls and submental region, but the indication for the rejuvenation procedure in a small proportion of patients was treatment of acne scarring.

At least one week prior to their first treatment, all subjects began a topical skincare regimen that included use of glycolic acid, pigment blockers, and a moisturizer containing vitamins C and E. At the treatment visits, microdermabrasion first was done by performing four passes over the skin using a Diamond Peel device. Then, the laser treatment was performed with adjunctive use of a topical carbon cream. The laser was operated at an energy level of 2.5 J/cm² and at a frequency of 10 pulses per second. Topical hydrocortisone and ice were applied immediately after the treatment was completed, and local reactions were limited to no more than slight, transient irritation.

"This combination treatment might be associated with a little more irritation than either technique alone," Dr. Copeland said. "But there is still no downtime, and persons can leave the office and not have to be concerned about their appearance in public."

Dr. Copeland has no financial interest in the equipment she used in this study.