

Combined Treatment with Microneedling and Chemical Peels Improves Periorbital Wrinkles and Skin Laxity

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Abstract : Introduction: There is a high patient demand for periorbital rejuvenation since the facial area is often the first to show visible signs of aging. With advancing age, there are sometimes marked changes that occur in the skin, fat, muscle and bone of the periorbital region, resulting to wrinkles and skin laxity. These changes are among the easiest areas to correct using several minimally invasive techniques, which have become increasingly popular over the last decade. Lasers, radiofrequency, botulinum toxin, fat grafting and fillers are available treatments sometimes in combination to traditional blepharoplasty. This study attempts to show the benefits of a minimally invasive approach to periorbital wrinkles and skin laxity that combine microneedling and 10% trichloroacetic acid (TCA) peels. Method: Eleven female patients aged 34-72 enrolled in the study. They all gave informed consent after receiving detailed information regarding the treatment procedure. Exclusion criteria in the study were previous treatment for the same condition in the past six months, pregnancy, allergy or hypersensitivity to the components, infection, inflammation and photosensitivity on the affected region. All patients had diffuse periorbital wrinkles and mild to moderate upper or lower eyelid skin laxity. They were treated with Automatic Microneedle Therapy System-Handhold and topical application of 10% trichloroacetic acid solution to each periorbital area for five minutes. Needling at a 0,25 mm depth was performed in both latelar (x-y) directions. Subsequently, the peeling agent was applied to each periorbital area for five minutes. Patients were subjected to the above combination every two weeks for a series of four treatments. Subsequently they were followed up regularly every month for two months. The effect was photo-documented. A Physician's and a Patient's Global Assessment Scale was used to evaluate the efficacy of the treatment (0-25% indicated poor response, 25%-50% fair, 50%-75% good and 75%-100% excellent response). Safety was assessed by monitoring early and delayed adverse events. Results: At the end of the study, almost all patients demonstrated significant aesthetic improvement. Physicians assessed a fair and a good improvement in 9(81.8% of patients) and 2(18.1% of patients) participants respectively. Patients Global Assessment rated a fair and a good response in 6 (54.5%) and 5 (45.4%) participants respectively. The procedure was well tolerated and all patients were satisfied. Mild discomfort and transient erythema were quite common during or immediately after the procedure, however only temporary. During the monthly follow up, no complications or scars were observed. Conclusions: Microneedling is known as a simple, office-based collagen induction therapy. Low concentration TCA solution applied to the epidermis that has been more permeable by microneedling, can reach the dermis more effectively. In the present study, chemical peels with 10% TCA acted as an adjuvant to microneedling, as it causes controlled skin damage, promoting regeneration and rejuvenation of tissues. This combined therapy improved periorbital fine lines, wrinkles, and overall appearance of the skin. Thus it constitutes an alternative treatment of periorbital skin aging, with encouraging results and minor side-effects.

Keywords : chemical peels, microneedling, periorbital wrinkles, skin laxity

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