

15379

**Addition of topical epidermal growth factor to microneedling treatments may enhance skin lightening benefits: A split-face pilot study for the management of melasma**

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Melasma is a common and chronic skin condition with limited, efficacious therapeutic options. The present pilot study employs a split-face design to compare microneedling alone with microneedling and topical epidermal growth factor (EGF) to determine if the addition of EGF enhances the efficacy of microneedling in the treatment of melasma. The study population consisted of 10 female patients with melasma, aged 35-63 years with skin types II to V. Outcomes included clinical assessment of patients using the Melasma Area and Severity Index and photography assessment using the Global Esthetic Improvement Scale. Patient satisfaction was measured using the Melasma Quality of Life (MELASQOL) questionnaire. Nine of the 10 subjects completed the study period, receiving an average of 3.4 microneedling sessions each. The overall average MASI score at baseline was 10.6 and at the final visit was 7.8. The MELASQOL score decreased by an average of 12.5 points. Microneedling in combination with topical EGF decreased the area of involvement by 0.1, the darkness by 0.8 and the homogeneity by 0.3 points. Microneedling alone decreased the area of involvement by 0.1, the darkness by 0.3, and the homogeneity by 0.3 points. Both sides improved nearly equally by GAIS. In summary, this study suggests that microneedling alone can assist in the management of melasma and the addition of topical EGF may enhance the benefits of microneedling by lightening the hyperpigmented macules and patches.

*Commercial disclosure: None identified.*



15396

**Factors affecting patient preferences between teledermatology and traditional face-to-face dermatology encounters**

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Teledermatology has been shown to be cost-effective, improve access to care, and decrease wait times for dermatology consultation. However, few studies have investigated patient preferences between teledermatology and face-to-face consultation. In addition, existing studies have demonstrated mixed results, suggesting a preference for face-to-face encounters. We took advantage of a unique circumstance, that patients on the Island of Nantucket, over a 5-year period have seen one dermatologist multiple times both in person and by real-time teledermatology. We used an interview and survey-based method to examine the likelihood of these patients to prefer teledermatology or in-person care. A total of 621 patient surveys were sent out and 45 were completed, for a completion rate of 7.2%. Of respondents, 65% preferred face-to-face visits over teledermatology consultations for a new problem, although only 27% preferred face-to-face visits for a follow-up visit. 89% were appreciative of having the option to receive specialist care remotely. Some specific preferences for teledermatology use include giving more oral cues to patients (63% of respondents), having a well trained nurse operating the camera (75%), and having dermatologists spend more time introducing themselves at the beginning of a teledermatology visit (67%). In addition, respondents suggested they wish they knew more about teledermatology prior to their first visit (65%). These findings provide a better understanding of patient preferences enabling dermatologists and administrators to adopt some best-practices to improve the patient experience.

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15383

**Dermatomyositis associated with ovarian cancer, negative screening, and negative antibodies**

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A 60-year-old Caucasian female patient presented for a second opinion regarding a 9-month history of focal erythema on both dorsal hands. Her outside laboratory evaluation, including ANA, had a slightly elevated AST (40). No muscle enzyme studies had been performed. The "non-specific connective tissue disease" skin pathology report and the laboratory findings resulted in an initial diagnosis of "mixed connective tissue disease." The patient was prescribed plaquenil but no improvement eventuated. The UTHHealth McGovern Dermatology evaluation noted erythema of the scalp, forehead, eyelids, chest, dorsal forearms, dorsal hands, with erythema overlying the small joints of the hands with sparing of the tendon spaces. Muscle strength in upper and lower extremities remained intact. An 11-antibody dermatomyositis panel (including TIF1- $\gamma$ ) was negative. Creatine kinase and aldolase were elevated. Recent malignancy screening including CA-125, transvaginal ultrasound, mammogram, breast ultrasound, and colonoscopy were normal. CT of the chest, abdomen and pelvis was also normal. Once the patient proceeded with a previously scheduled elective TAH-BSO, a high-grade serous carcinoma involving bilateral ovaries and the right fallopian tube was discovered. The surgery and chemotherapy have resulted in marked improvement in the patient's skin alterations and her overall sense of well-being. The transcriptional intermediary factor gamma (TIF1- $\gamma$ ) antibody is associated with malignancy in dermatomyositis and has a sensitivity of 78% and specificity of 89% for cancer but was negative in our patient. Aggressive workup and management may be warranted in patients with a high suspicion for disease despite negative screening and negative antibodies.

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15401

**Histometric evaluation of a monopolar radiofrequency for the treatment of facial laxity**

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Background: A monopolar radiofrequency (RF) device can be applied for use on facial tightening. The device targets the dermis and fibrous septae, the treatment results in immediate collagen contraction as well as the induction of collagen remodeling. We aimed to evaluate histometric change of subjects treated by a monopolar RF device using novel tip.

Methods: Total 11 subjects in skin type III and IV participated in the study. They received a monopolar RF on the face and biopsies were performed before treatment, 2 months and 6 months after treatment. Hematoxylin and eosin (H&E), Masson trichrome (MT), and Victoria blue (VB) stained. Image analysis was performed using Image J software. Dermal density of collagen and elastic fiber and coherency of collagen fibers were assessed in the papillary, upper and lower reticular dermis, respectively.

Results: The monopolar RF treatments led to improvements in collagen fiber density and coherency. In MT stain, the density of collagen fiber was  $0.736 \pm 0.06$  and  $0.652 \pm 0.063$  before treatment in papillary and lower reticular dermis. It was increased to  $0.773 \pm 0.044$  ( $P$  value 0.018), and  $0.686 \pm 0.05$  ( $P$  value 0.045). The density of elastic fibers showed a tendency to increase after treatment, although  $P$  value was not statically significant. The average of coherency after treatment was higher than before treatment.

Conclusions: In vivo study, we found that density of collagen and elastic fibers were increased and the architecture of fibers were improved after treatment. We concluded that a monopolar RF treatment using novel tip is effective for facial tightening.

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