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Combined treatment of striae using calcium hydroxylapatite, ascorbic acid delivered by microneedling, and microfocused ultrasound

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Background and objective: Striae (i.e., stretch marks) are associated with the loss of collagen and reduced fibrillin and elastin in the skin. Currently available treatments are less than optimal. The objective of this retrospective study was to evaluate improvements in straie appearance after combined treatment with microneedling, topical ascorbic acid, calcium hydroxylapatite (CaHA; Merz North America), and microfocused ultrasound with visualization (MFU-V; Ulthera).

Methods: Adult women had red (n = 25) or white (n = 10) striae affecting their buttocks, thighs, knees, abdomen, or breasts. CaHA filler (diluted 1:1 with lidocaine 2%) was injected into striae at all depths from subcutaneous to superficial dermis with a 23 G needle followed by vigorous massage. CaHA injection was followed by topical application of a 20% ascorbic acid solution and microneedling. Two more treatments with ascorbic acid/microneedling were performed at 30-day intervals. Histology studies were performed on treated tissue obtained from 1 subject during a subsequent abdominoplasty. Subjects with remaining skin atrophy (n = 20) received further treatment with MFU-V (7 and 10 MHz transducers at 3.0 and 1.5 mm depths, respectively). Changes in baseline Manchester Scar Scale scores and Patient Satisfaction Scale scores were evaluated at 90 days after MFU-V.

Results: One month after the final ascorbic acid/microneedling session (before MFU-V), all subjects had improved appearance in striae ($P < .001$). Most subjects were Very Satisfied or Satisfied (n = 30; 85.7%) with the results. Two subjects demonstrated post-inflammatory hyperpigmentation, which resolved in 30 days with use of a whitening cream. Histology results revealed increased quantity of collagen and elastin fibers in the dermis treated with combined CaHA filler, microneedling, and ascorbic acid vs. untreated tissue or areas treated with microneedling and ascorbic acid alone. At 90-days post-MFU-V, the mean pretreatment Manchester Scar Scale score decreased from 9.35 to 6.30 ($P < .001$); the mean Patient Satisfaction Scale score increased from 3.75 to 4.70 ($P < .001$). All subjects were Very Satisfied (70%) or Satisfied (30%) with their results. No adverse events were reported.

Conclusion: CaHA filler, microneedling, and MFU-V each have the ability to increase collagen production. Combined use of CaHA, microneedling, and topical ascorbic acid is an effective treatment for striae. Additional improvements can be achieved with MFU-V.

Commercial support: Merz.

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Communication of biopsy results in a resident supervised clinic

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Effective communication of biopsy results requires systems and processes to ensure that results and their associated plan of action are relayed to the patient. Failures in these systems cause patients to be unaware of their diagnoses and fail to obtain the necessary follow-up monitoring, treatments or procedures. The aim of this study was to determine how often biopsy results are successfully communicated to patients in a timely manner in the setting of a resident supervised academic dermatology clinic. We also sought to identify contributing factors, causes and effects of failures in this system. All biopsies performed at the resident supervised University Medical Center dermatology clinic in New Orleans during 2016 were reviewed. Of the 402 patients biopsied, 11% were not notified of their results (n = 46). In a majority of these cases (70%; n = 32), there was no record in a paper ledger or in the electronic medical record that an attempt was made. When the biopsy diagnosis required subsequent treatment, (defined as malignant neoplasm or indeterminate pathology), 8 of the 46 nonnotified patients (17%) were lost to follow-up. 356 patients were notified of their biopsy results by phone or by follow-up appointment. 15% of the notified patients had a delay in receiving their results (time >30 days; n = 53). When the biopsy diagnosis required subsequent treatment, 11 of 88 of the notified patients (13%) were lost to follow-up after receiving their results. The causes of these failures include patient factors such as unreliable phone numbers, unstable living situations, and language barriers. Clinic factors that lead to these failures difficult patient access to clinic by phone or patient portal, lack of nursing support, and the lack of continuity due to resident rotations. System based processes learned during residency are crucial in imprinting a culture of safety upon residents' future careers. For patient centered barriers to communication, phone numbers should be verified after every biopsy, patients should have access to clinic by telephone and written results should be mailed as a final effort at communication. For provider centered factors, we propose that dermatology clinics have a system of redundant checks ensuring that multiple attempts to communicate with patients are made and documented, and that all residents, nurses, and faculty have training once a year on protocols for communication procedures.

Commercial support: None identified.

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Combining in-office chemical peel procedures with topical therapy of a comprehensive pigmentation control product for multiethnic subjects with moderate to severe facial hyperpigmentation

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Dyschromia is one of the primary complaints for patients with skin of color. Treatments need to achieve a balance between tolerability and efficacy to address existing hyperpigmentation without causing additional damage that could trigger post-inflammatory hyperpigmentation (PIH). An open-label, single-center study was conducted to assess the efficacy of a novel comprehensive pigmentation control serum (LYT2) combined with a series of three very superficial chemical peels (VP) in skin of color subjects. Seventeen female and male subjects aged 36-69 years with Fitzpatrick Skin types III-VI and moderate to severe facial hyperpigmentation were enrolled in the 12-week clinical study. Subjects identified as Asian, Hispanic, African-American, or Caucasian ethnicities. Subjects received a series of 3 VP treatments every 4 weeks. LYT2 was applied twice-daily in between VP treatments. Investigator assessments for overall hyperpigmentation, overall photodamage, and skin tone unevenness, as well as standardized digital photography and subject self-assessment questionnaires were conducted at all visits (baseline and weeks 4, 8, and 12). In vivo reflectance confocal microscopy (RCM) of a target lesion was conducted (in a subset of subjects) at baseline and week 12. Fourteen subjects completed the study. The treatment regimen provided statistically significant improvements in all efficacy parameters at weeks 8 and 12 (all $P \leq .03$, Student t test). Standardized digital photography and RCM images support the improvements in overall hyperpigmentation observed by the investigator. At the end of treatment, the regimen was highly rated by subjects with 100% of subjects (strongly agree/agree) that the combination "decreased the appearance of uneven skin tone and discolorations" and "reduced the appearance of sun damage." In addition to this clinical study, independent case studies with this combination treatment regimen at a separate study site were also conducted with results that corroborate the formal clinical study findings. The comprehensive results from these studies suggest that the combination of a comprehensive pigmentation control serum with a series of 3 very superficial chemical peels may provide an effective treatment approach for hyperpigmentation in skin of color patients.

Commercial support: SkinMedica, Inc., an Allergan company.

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Comorbid autoimmune diseases and cancer risks among patients with alopecia areata: A population-based case-control study in Korea

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Background: There have been few studies on the association between alopecia areata (AA) and its comorbidities.

Objectives: The aim of this study was to investigate the association between AA and comorbid conditions including autoimmune diseases and several types of cancer.

Methods: This study was a retrospective case-control study based on the National Health Insurance Service—National Sample Cohort database of patients with AA and age- and sex-matched control subjects from 2003 to 2013.

Results: Among 12,199 patients with AA and 60,995 control subjects, patients with AA were at significantly increased risk for Graves disease, Hashimoto thyroiditis, vitiligo, psoriasis, lupus erythematosus, and rheumatoid arthritis compared with control subjects. The risk of thyroid cancer in patients with AA was significantly increased, whereas the risk of other cancers of the breast, colon/rectum, stomach, liver, and lung was significantly decreased compared with control subjects.

Limitations: The diagnosis of AA and comorbidities was identified and characterized without reviewing the detailed clinical charts.

Conclusion: The risk of various autoimmune diseases and thyroid cancer was significantly increased in patients with AA. Our study also demonstrated that AA was associated with a decreased risk of breast, colon/rectum, stomach, liver, and lung cancer.

Commercial support: None identified.