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Evaluation of skin barrier and hydration effects of a new rebalancing moisturizing treatment cream in a human epidermal skin model



Diane B. Nelson, RN, MPH, Mitchell S. Wortzman, PhD, SkinBetter Science

Background and Objective: Three critical elements of skin moisturization and optimal skin barrier health include enhancing skin's natural lipid bilayer, natural moisturizing factors (NMF) and hyaluronic acid (HA). Herein we evaluated the skin barrier and hydration effects of a new rebalancing moisture treatment (TRMT).

Methods: In an epidermal skin model, tissues (n = 5/group) were topically treated with 25 μ L of TRMT, 25 μ L of a market-leading moisturizer (MLM), or untreated for sixty minutes. Hydration was measured at 0, 15, and 30 minutes. Tissues were harvested for gene expression analysis of markers associated with skin barrier and hydration: claudin (CLD), aquaporin (AQP), hyaluronic acid synthase (HAS), and hyaluronidase (HYAL).

Results: At 0, 15, and 30-minutes, TRMT and MLM demonstrated statistically significant increased hydration vs NC ($P < .005$). TRMT demonstrated greater hydration effects than MLM at each timepoint, with 2 \times greater hydration at 15 minutes. After 24 hours of exposure, tissues treated with TRMT demonstrated substantially greater expression of CLD, AQP and HA compared with untreated tissues and tissues treated with MLM. TRMT also demonstrated substantially reduced expression of HYAL compared with untreated and MLM-treated tissues. Expression of key biomarkers evaluated for MLM-treated tissues were comparable to untreated tissues.

Conclusions: In an epidermal skin model, TRMT demonstrated significant increases in hydration, greater hydration effects and expression of key markers associated with skin barrier and hydration vs a MLM. Twice-daily application of TRMT was well tolerated and resulted in early, significant improvements in hydration and visible improvements in skin brightness, texture, fine lines/wrinkles and erythema at 8 weeks.

Commercial disclosure: SkinBetter Science.

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Hidradenitis suppurativa and the risk of connective tissue disease in a population-based study



Maria Schneeweiss, MD, Department of Dermatology and Division of Pharmacoepidemiology, Department of Medicine, Brigham and Women's Hospital; Sebastian Schneeweiss, MD, ScD, Richard Wyss, PhD, Joseph Merola, MD, MMSc, David Rosmarin, Tufts Medical Center

Background: Hidradenitis suppurativa (HS) has been associated with autoimmune conditions, however, the risk of developing connective tissue disease (CTD) is unclear. We evaluated the risk of developing CTD among patients with HS compared with propensity score-matched control patients.

Methods: This population-based cohort study used insurance claims data from a US health care database from 1/1/2003 to 1/1/2017. We identified patients with HS and used 2:1 risk-set sampling to identify control patients without HS. Patients with preexisting CTD were excluded. Patient follow-up lasted until one of the following events occurred: CTD outcome, death, disenrollment, or end of data stream, whichever came first. We used ICD diagnosis codes to identify newly recorded CTD, including systemic lupus erythematosus, Sjogren syndrome, systemic sclerosis, localized scleroderma/morphea, and systemic vasculitis. Hazard ratios of developing CTD were computed after 1:1 propensity score matching.

Results: After 2:1 risk-set sampling, we identified a cohort of 234,546 patients including 78,122 HS patients and 156,247 non-HS comparators. The mean follow-up time was 540 days with a maximum of 5293 days. After propensity score matching, HS patients had an increased risk for developing systemic lupus erythematosus (HR 1.60 [95% CI 1.29-1.99]) and localized scleroderma (HR 2.16 [1.41-3.30]) compared with non-HS patients. HS patients did not have an increased risk for developing Sjogren syndrome (HR 0.88 [0.71-1.10]), systemic sclerosis (HR 0.84 [0.51-1.37]), or systemic vasculitis (HR 0.95 [0.69-1.31]).

Conclusions: In this population-based study, we found a 60% increase in risk of systemic lupus erythematosus subsequent to a first recorded diagnosis of hidradenitis suppurativa.

Commercial disclosure: None identified.

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Unmet needs in psoriasis assisted by telementoring



Luis Daniel Mazzuoccolo, MD, Maria Julia Cura, MD, Hospital Italiano de Buenos Aires; Paula Carolina Luna, Luciana L. Tirelli, MD, Hospital Alemán; Carolina Marchesi, Cristina Echeverria

Argentina is a large country with huge asymmetries between the access of medical assistance among the different regions. Telemedicine is a big opportunity to reduce disparities in psoriasis care. The Project ECHO (Extension for Community Healthcare Outcomes) is a model of distance medical education, empowering providers who work in remote areas and treat complex medical diseases. It is developed by videoconferencing case presentations between experts and providers. Since 2015 we have implemented this telementoring model for dermatologists who treat patients with psoriasis. The objective of this study was to explore the unmet needs of dermatologists attending psoriatic patients, and how can the experts help them offer better medical practices. Sixty teleclinics were held with 120 dermatologists covering all regions of our country. The median of participants per teleclinic was 23. A total of 213 consultations were performed, 157 were first consultations and the rest follow-up queries. Ninety five percent of the patients had a moderate to severe disease and 20% of them had never received a systemic therapy. The main reasons for consultations were: to define a new treatment (29%), drugs and dose changes (28%), and for reassurance (26%). Therapy modification was proposed by the experts in 60% of the cases. Starting a conventional systemic therapy (33%) and switching biologic agents (43%) were the most frequent suggestions. In one out of 3 cases, the experts' advice could not be achieved because of different barriers, such as adherence (71%) and access (39%). Telementoring is a useful tool for medical education in psoriasis.

Commercial disclosure: None identified.

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Skin cancer: Knowledge, attitudes, and prevention behaviors among outdoor-working patients diagnosed with nonmelanoma skin cancer



Vinayak K. Nahar, Department of Dermatology, School of Medicine, University of Mississippi Medical Center; William Black, University of Mississippi Medical Center; M. Allison Ford-Wade, University of Mississippi; Robert T. Brodell, MD, University of Mississippi Medical Center

Background: Outdoor workers receive regular and intense exposure to solar ultraviolet radiation, increasing their risk of developing skin cancer. Moreover, individuals diagnosed with skin cancer remain at elevated risk of new skin cancers, including malignant melanoma. Therefore, the aim of this study was to assess the skin cancer knowledge, attitudes, and preventive behaviors among outdoor workers diagnosed with nonmelanoma skin cancer (NMSC).

Methods: Cross-sectional survey data of a convenience sample of patients diagnosed with NMSC (n = 311) were used in this study. Data were collected at a large medical center in the southern United States.

Results: A total of 111 patients diagnosed with NMSC were identified as part-time or full-time outdoor workers. Overall, level of skin cancer knowledge among outdoor workers was moderate. Majority of the participants reported that sun protection is beneficial and they should practice sun protection to prevent their future risk of skin cancer. Despite spending considerable amount of time in the sun, outdoor workers do not adequately use sun protection measures. Of note, 29.7% of the participants reported sunburns after their skin cancer diagnosis and 42.3% "never or rarely" wore sunscreen on all exposed areas of their body. Participants reported that they often forget to use sun protection (54.0%) and sunscreen is messy (31.5%).

Results: of bivariate analyses showed knowledge ($r = 0.291, P = .005$) and attitudes ($r = 0.431, P < .001$) were associated with the use of sun protection measures.

Conclusions: Our findings highlight the need for interventions to improve sun protection behaviors among outdoor workers diagnosed with NMSC.

Commercial disclosure: None identified.