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The role of antihistamines and dupilumab in the management of alopecia areata: A systematic review

Christine Pham, BS, University of California, Irvine; Calvin Sung, Margit Juhasz, Joyce T. Yuan, MD, Department of Dermatology, University of California, San Diego; Natasha Atanaskova Mesinkovska, MD, PhD, University of California, Irvine

Background: Alopecia areata (AA) is associated with atopy. Though multiple studies suggest that antihistamines may be effective in treating AA, the potential benefit of antihistamines as monotherapy or adjuvant has yet to be elucidated. In addition, given AA patients' increased prevalence of atopic dermatitis (AD), further exploration on the effects of dupilumab in AA are warranted.

Objective: To evaluate the role of antihistamines and dupilumab in AA.

Methods: A primary literature search using PubMed, Cochrane, and Cinahl databases was conducted in July 2019 according to PRISMA guidelines. Inclusion criteria were articles describing the use of antihistamines or dupilumab for AA, as well as those discussing AA development as an adverse event of these therapies.

Results: Twenty-four articles with 326 patients describe the use of antihistamines or dupilumab in AA. The majority of patients taking antihistamines, most commonly oxatamide 30 mg twice a day, fexofenadine 60 or 120 mg/day and ebastine 10 mg/day, reported significant hair regrowth, decreased pruritus and erythema. All patients utilizing dupilumab for AA demonstrated remarkable hair growth (n = 7). However, dupilumab may have caused AA (n = 6) and drug-induced alopecia (n = 1).

Conclusions: Antihistamines, such as fexofenadine, are a potential therapy for AA. The role of dupilumab in AA treatment and/or development requires further research.

Commercial disclosure: None identified.

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Examining the relationship between primary focal hyperhidrosis and cutaneous infections

Haig H. Pakhchanian, BS, George Washington University School of Medicine and Health Sciences; Rahul Raiker, BS, West Virginia University School of Medicine; Steven Davis, PhD, A. Yasmine Kirkorian, MD, Children's National Health System

Background: Primary focal hyperhidrosis (PFH) is known to be associated with a lower quality of life. However there is scant information on the clinical consequences of having PFH. The goal of this study was to determine the relationship between PFH and cutaneous infections to see which have higher odds of occurring

Methods: Data from the National Inpatient Sample (2000-2014), a database consisting of a ~20% stratified sample of all US hospitalizations, was analyzed. Multivariable logistic regression models were constructed to obtain adjusted odds ratios controlling for socioeconomic demographics in PFH patients.

Results: PFH patients were significantly associated with increased odds of 6/15 cutaneous infections examined. PFH was associated with dermatophytosis infections (adjusted odds ratio [95% confidence interval]): (12.1 [8.9-16.7]), *Pseudomonas* infections (2.3 [1.3-4.1]), viral warts (4.8 [1.2-19.1]), herpes simplex virus (2.5 [1.2-5.0]), folliculitis (9.6 [4.3-21.3]), and carbuncle/furuncle (8.3 [3.5-19.7]). Overall, PFH was associated with any fungal infection (2.7 [2.0-3.5]) and any viral infection (1.5 [1.1-2.2]).

Conclusions: PFH patients are associated with increased odds of having cutaneous infections.

Commercial disclosure: None identified.

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Prospective evaluation of efficacy and tolerability in skin phototypes IV to VI of a topical formulation for hyperpigmentation combining tranexamic acid with niacinamide, kojic acid, and hydroxyethylpiperazine ethane

Hema Sundaram, MA, MD, FAAD, Dermatology, Cosmetic, and Laser Surgery

Background: Hyperpigmentation, a source of distress and stigma, has triggers including skin inflammation, ultraviolet light (UV), or hormonal changes. Challenges for skin of color include exaggerated melanocyte responses to injury and UV, lack of satisfactory long-term or prophylactic therapies, and suboptimal response to hydroquinone with rebound pigmentation on cessation. Irritation and post-inflammatory hyperpigmentation may also limit hydroquinone utility. This prospective evaluation investigated efficacy and tolerability of a topical formulation containing 3% tranexamic acid, 5% niacinamide, 1% kojic acid, and 5% hydroxyethylpiperazine ethane. 26 women aged 23-54 with skin phototypes IV-VI, moderate to severe hyperpigmentation on a 5-point scale, no previous procedures, and washouts of at least 6 months for relevant topical treatments applied the formulation twice daily for 12 weeks plus daily broad-spectrum sunscreen. Hyperpigmentation was assessed at baseline, 8 and 12 weeks by standardized digital imaging, UV and polarized light imaging (12/26), independent evaluators, and patient questionnaires. All patients had 1- or 2-point improvements in hyperpigmentation at 12 weeks. 9/12 showed decreased skin vascularity on polarized light imaging. 21/26 self-reported improvements in skin clarity, tone or texture. All reported increased satisfaction with overall skin appearance of 1 point on a 5-point scale; 11/26 reported 2 points. There were no adverse events including skin irritation or rebound hyperpigmentation after cessation. The formulation was efficacious and well tolerated as primary treatment for hyperpigmentation in phototypes IV to VI. Anti-inflammatory activity with reduced hypervascularity may ameliorate inflammatory etiologies and post-inflammatory hyperpigmentation. Combination with antioxidants could specifically address hyperpigmentation in skin of color.

Commercial disclosure: The topical formulation used by 8 of the 26 evaluated patients was provided without cost by SkinCeuticals.

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The role of inflammaging in dermatology

Heather Woolery-Lloyd, MD, Frost Department of Dermatology and Cutaneous Surgery, Miller University Miami School of Medicine; Abid Haque

Background: As humans age, our ability to resolve certain types of inflammation is reduced. As a result, we experience chronic low-grade inflammation. Inflammaging is the theory that chronic low-grade inflammation accelerates age-related diseases like Alzheimer, heart disease, diabetes, and even certain types of cancer. This type of low-grade inflammation is thought to be driven by a systemic increase in cytokines and has increasingly been the subject of recent research. Inflammaging and metaflammation (the metabolic inflammation accompanying metabolic diseases) are thought to be significantly influenced by each individual's microbiome. As a major host of the human microbiome, the skin is now thought to play a much more significant role in inflammaging and metaflammation. As dermatologists, we need to be aware of this emerging concept. Low-level chronic inflammation contributes to accelerated aging and many age-related diseases. In addition, a healthy cutaneous microbiome may reduce inflammaging and associated dermatologic and systemic diseases. This poster introduces the concept of inflammaging in dermatology which has not been widely discussed from a dermatologic perspective. We also systematically review existing research on inflammaging in dermatology and highlight the need for further research in this emerging area of medicine.

Commercial disclosure: None identified.