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TABLE OF CONTENTS

AARS Announcements

AARS Reception Cancelled

In light of the decision by the American Academy of Dermatology (AAD) leadership to cancel this year's annual meeting due to concerns about Covid-19, we have cancelled our AARS 15th Annual Networking Reception co-hosted with Practical Dermatology. This was originally scheduled for Friday evening, March 20, 2020 in Denver.

We genuinely regret that we will miss this chance to connect and communicate in Denver, and we look forward to future opportunities to network. Be assured of our best wishes for your health and safety.

If you have any questions or would like to meet with AARS leadership in the near future, please contact us at info@aarsmember.org.

Thank you,

J. Mark Jackson, MD, FAAD
AARS President

Register Now for the inaugural AARS Global Research Summit

The AARS is pleased to launch the largest ***Access*** strategic initiative thus far, the **AARS Global Research Summit 2020.** Please register now for our upcoming 2-day scientific and networking event will be held in conjunction with the 78th Annual Meeting of the Society of Investigative Dermatology.

This Summit is scheduled to take place on May 12-13, 2020 at the Westin Kierland in Scottsdale, Arizona.
Register Here! Email info@aarsmember.org for more information!

The three core activities within the inaugural AARS Global Research Summit include:

Tuesday, May 12, 2020 6:00 PM – 8:00 PM Impact of Acne, HS and Rosacea

Join us for a pre-symposium dinner with an audience of scientists, payers and your industry colleagues from managed care, medical affairs, and commercial teams. This evening will feature a unique approach to the discussion of acne and rosacea medication access and the impact felt from these diseases. The payers will hear how important maintaining acne and rosacea therapy is through a moderated panel of patient influencers who will share their own insights into their prescription medication access challenges and success. We will also include thoughts from AARS leadership who fight for this coverage and recent burden of illness data.

Wednesday, May 13, 2020 9:00 AM – 1:00 PM 9th Annual AARS Scientific Symposium

Started by former AARS President, Dr. Diane Thiboutot, this symposium is our largest live scientific symposium during the year. This event will feature presentations and discussion from esteemed researchers co-chaired by AARS President Dr. Mark Jackson and Dr. Diane Thiboutot.

Wednesday, May 13, 2020 1:00 PM – 2:00 PM Research Networking Workshop

During informal sessions we will connect the research communities with industry and patients to learn more from each other and discover potential funding and additional research opportunities. Each presenter from the symposium will have the chance to explain more about their research and introduce their department colleagues.

New Medical Research

Pulsed dye laser alone versus its combination with topical ivermectin 1% in treatment of rosacea: A randomized comparative study. Osman M, Shokeir HA, Hassan AM, Atef Khalifa M. J Dermatolog Treat. 2020 Mar 12:1-7. doi: 10.1080/09546634.2020.1737636. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32141785

Background: While the etiology of rosacea is multifactorial, it is not surprising that treatment has been controversial. Pulsed dye laser (PDL) has been successfully used to treat vascular components of rosacea. Ivermectin 1% cream is an emerging treatment of rosacea. Objective: To provide a comprehensive clinical and dermatoscopic comparative study between the efficacy and safety of pulsed dye laser alone versus its combination with topical ivermectin 1% in the treatment of rosacea. Materials and methods: Thirty Patients were randomly divided into two groups. Group A (n = 15) treated with 585 nm PDL, and group B (n = 15) treated with 585 nm PDL and topical ivermectin 1% cream. All patients received four laser treatments with a 4-week interval. The efficacy of treatment was assessed by photographs and dermoscopic photomicrographs at baseline and 3 months after the final treatment. The patient's level of satisfaction was also recorded. Results: At the 3-month follow-up, group B induced better clinical improvement than group A. However, this difference was not significant. No serious adverse events were observed in either treatment group. Conclusion: This study supports the efficacy of PDL treatment for patients with rosacea. PDL could be more effective when combined with ivermectin 1% cream.

Evaluation of subclinical atherosclerosis in Turkish patients with acne vulgaris receiving systemic isotretinoin. Tekden K, Mualla P, Güler B. Dermatol Ther. 2020 Mar 11:e13307. doi: 10.1111/dth.13307. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32160377

Studies conducted on isotretinoin have shown that it may indirectly lead to atherosclerosis. The objective of this study was to determine the effect of systemic isotretinoin on subclinical atherosclerosis. The present study included 63 patients with acne vulgaris who had used isotretinoin for 6 months. Glucose, insulin, and homeostatic model assessment of insulin resistance levels; body mass index; waist circumference; blood pressure; lipid profile; and lectin-like oxidized low-density lipoprotein receptor-1 (LOX-1), high-sensitivity C-reactive protein, and oxidized low-density lipoprotein (Ox-LDL) levels were compared in the patients at the initiation and discontinuation of the treatment. At the discontinuation of the treatment, LOX-1 and Ox-LDL levels showed a significant increase ($P < 0.001$ and $P = 0.040$, respectively). Differences in waist circumference were positively correlated with an increase in LOX-1 levels ($r = 0.274$; $P = 0.030$). Isotretinoin causes an increase in the levels of subclinical atherosclerosis markers. Although the present study sample size was small, we believe that caution should be exercised considering the risk of atherosclerosis during isotretinoin use in men with high waist circumference and cardiovascular risk factors; further studies are warranted in this regard.

Topical rosacea cream creates new treatment paradigm. Cheryl Guttman Krader, BS, Pharm. March 11, 2020. Dermatology Times. Volume: 41 Issue: 3. https://www.dermatologytimes.com/rosacea/topical-rosacea-cream-creates-new-treatment-paradigm

Topical ivermectin cream, 1% (Soolantra, Galderma) represents an advance in treatment for rosacea, offering superior efficacy and tolerability compared with previously available therapies, says Jeffrey S. Fromowitz, M.D., who spoke at the Orlando Dermatology Aesthetic & Clinical Conference. Because of its benefits, ivermectin is also

changing the treatment paradigm for rosacea, shifting the goal to targeting “clear” status for patients rather than settling for “near clear,” according to Dr. Fromowitz, medical director of Dermatology of Boca, Boca Raton, Fla. “With ivermectin it is now possible to drive more patients with rosacea towards an outcome of ‘clear’ versus ‘near clear’. That is a clinically relevant distinction considering available data on the psychosocial burdens of rosacea and showing the benefit of achieving disease clearance for a longer treatment-free interval,” he says. Psychosocial sequelae: As an inflammatory condition involving facial skin, rosacea can have significant quality of life consequences for individuals. Studies of patients with rosacea highlight how the disease affects their self-esteem and creates feelings of helplessness, depression, embarrassment, anger, and it raises social anxiety levels. In addition, research shows that significant proportions of patients with rosacea rate their disease as having a moderate or greater negative impact on their life and report spending several hours a day dealing with their disease. Considering findings from studies asking for input on the qualities of people with rosacea, the emotional toll of rosacea reported by patients is not unwarranted. “In a study where participants were shown side by side images of a person with clear skin and someone with rosacea, the person with rosacea was rated as being more insecure, unhealthy, more likely to be single, more likely to be stressed or unhappy, less likely to be an executive manager, and less likely to be reliable,” Dr. Fromowitz says. “This information underscores the need to recognize the psychological consequences that rosacea has on patients and the potential value of a treatment able to clear the disease.” Ivermectin moa and outcomes: Ivermectin represents a unique treatment for reducing inflammatory lesions of rosacea and is thought to exert its benefit via dual mechanisms. First, ivermectin has anti-inflammatory activity, decreasing both the cellular and humoral immunity pathways that are thought to be involved in the development of rosacea. In addition, ivermectin is a vermicidal agent, killing Demodex mites that have been implicated in rosacea pathophysiology and may drive inflammation. In both pivotal trials that led to the approval of topical ivermectin, the medication demonstrated statistical superiority compared with vehicle control in both co-primary endpoints that looked at the percentage of subjects achieving clear or almost clear in the Investigator Global Assessment at week 12 and the absolute change in in ammatory lesion count from baseline to week 12. Other studies provide evidence comparing topical ivermectin with other treatments for papulopustular rosacea. A European pharmacoeconomics study comparing ivermectin cream, 1% with metronidazole cream, 0.75% reported statistically significant differences favoring ivermectin for having better efficacy and tolerability. Another study examining the long-term efficacy and safety profiles of ivermectin, metronidazole cream, and azelaic acid gel, 15% showed ivermectin offered both superior efficacy and better tolerability than the other topical agents, reported Dr. Fromowitz. In the study comparing topical ivermectin and metronidazole cream, the percentage of patients achieving success without relapse requiring retreatment was found to be 33% greater in the ivermectin versus metronidazole group. In addition, the mean time to relapse was 30 days longer in the ivermectin group, or stated another way, patients using ivermectin benefited with an average of 30 more treatment-free days. “The ability to induce remission and eliminate the need for daily use of a medication is an important outcome for patients with any chronic disease,” Dr. Fromowitz says. A post-hoc analysis of data from the ivermectin pivotal trial demonstrated that achieving a clear outcome versus almost clear translated into a longer treatment-free interval. Median time to relapse was eight months for patients rated as clear by their investigators compared with just three months for those whose outcome was judged as almost clear. The data were also analyzed to examine the impact of achieving clear status, and the results showed that it matters to patients. Among patients whose rosacea was rated clear by their treating investigator, approximately 77% rated their disease improvement as excellent compared with just 41% of patients who achieved an investigator rating of near clear.

Treatment of acne scars with a fractional 1064-nm Nd:YAG picosecond laser and histopathologic findings. Choi ME, Paik SH, Woo Jin Lee DD1, et al. Dermatol Ther. 2020 Mar 6:e13297. doi: 10.1111/dth.13297. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32144858

Atrophic acne scars have been treated using a non-ablative fractional 1550 nm laser for more than 15 years. Recently, Non-ablative fractional delivery of a 1064 nm picosecond laser was used to treat scars. This laser's ultrashort pulses trigger photomechanical effects based on selective photothermolysis (Habbema, Verhagen, Van Hal, Liu & Varghese, 2012). We report successful treatment of acne scars and point toward its treatment mechanism by showing histopathologic findings. A total of 4 patients with acne-induced depressed scars were treated with a pulse duration of 450 picoseconds and a fluence of 280 to 350 mJ/cm2. Three passes were used, with a diffractive optical element-fractional beam from a 1064-nm Nd:YAG laser (PicoLO; Laseroptek Corp., Korea), over 3 sessions that were 1 month apart. A physician improvement scale (0=no change, +1=mild (1- 25%), +2=moderate (26- 50%), +3=marked (51-75%), +4=complete (76-100%)) and ECCA grading scale were used to evaluate improvement after treatment. All patients were satisfied with the treatment and pain was minimal. At the three-month follow-up (Fig. 1), atrophic scars had responded well to the laser (the average of physician improvement scale= 2.5; 57.9% improvement of ECCA score). Only petechiae were observed after exposure, and no other side effects were noted after a five-month follow up. Since a biopsy from the face was impossible, the same parameters mentioned above were utilized to evaluate the back of a 60-year-old male volunteer, with skin phototype III. After obtaining written informed consent, a punch biopsy was done before treatment as well as 30 minutes, 1 day, and 1 month after laser irradiation. There was a superficial cystic cavitation and dramatically increased fragmentation of collagen fibers, at 30 minutes compared to the untreated control (Supplement Fig. 1a, d). On day 1, the type IV collagen (+) basement membrane and CD31 (+) vascular structure were intact. At 1 month, both elastic and collagen fibers increased, as shown by Masson-trichrome or Elastic-van Gieson staining (Supplement Fig. 1b, c, e, f). A picosecond fractional laser was first introduced for the treatment of atrophic scars in 2015 (Brauer et al., 2015). S. Guida et al.(Guida, Bencini & Pellacani, 2019) used a fractional picosecond laser to show that immediate micro-injuries occurred viainvivo reflectance confocal microscopy. At 6 months, there was complete structural recovery, with a net increase in collagen fibers. Recently constructed lasers exhibit a genuine picosecond domain and shorter pulse duration than that of previously developed picosecond lasers. However, since substantial costs can be a barrier until now, preventing it from being utilized on wider scale, further development of picosecond lasers that suit cost-effectiveness is necessary. LIOB may be initiated upon absorption of picosecond laser energy by a chromophore(Huang, Chern, Peng & Hsien-Li Peng, 2019). Melanosome chromophores emit a free seed electron, resulting in an ionized plasma at focal area and subsequently drives a shockwave that further expand outward to create LIOB (Tanghetti MD & Jennings, 2018). In our case, LIOB formation was seen, but limited, since the treated area was the back and therefore had less melanin than the face. Thus, we showed that this 450 picosecond laser, consisting of afractional 1064-nm N d : YAG, undergoes dermal remodeling and provides an attractive treatment option for atrophic scars.

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Evaluation of point-of-care decision support for adult acne treatment by primary care clinicians. Li DG, Pournamdari AB, Liu KJ, et al. JAMA Dermatol. 2020 Mar 4. doi: 10.1001/jamadermatol.2020.0135. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32129799

Importance: Acne is a common reason for referral to dermatologists from primary care clinicians. We previously modeled the impact of algorithm-based acne care in reducing dermatology referrals, missed appointments, and treatment delays. Objective: To prospectively evaluate the downstream outcomes following a real-time, algorithm-

based electronic decision-support tool on the treatment of patients referred for acne. Design, setting, and participants: This prospective cohort study included 260 treatment-naive patients referred to a dermatologist for the chief concern of acne, as well as the referring primary care clinicians, at 33 primary care sites affiliated with Brigham and Women's Hospital from March 2017 to March 2018. Interventions: We developed and implemented a decision-support tool into the electronic medical record system at an academic medical center. The algorithm identified patients referred to a dermatologist who had not previously been treated for acne and offered guideline-based recommendations for treatment via a real-time notification. Main outcomes and measures: Treatment modification by referring clinicians. Results: Of 260 patients referred for acne, 209 (80.4%) were women, 146 (56.1%) were non-Hispanic white, and 236 (90.8%) listed English as the preferred language. Patients had a median (quartile 1-quartile 3) age of 28.8 years (24.4-35.1 years) and 185 of 260 had private insurance (71.1%). In total, the algorithm was associated with cancellation of the initial referral in 35 of 260 (13.5%) instances and treatment initiation by the referring clinician in 51 of 260 (19.6%) instances. Conclusions and relevance: This decision-support algorithm was associated with a modest reduction in rates of acne-related referrals to dermatologists, and an increased likelihood of treatment initiation by the referring clinician.

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Sol-Gel's rosacea cream may offer patients rapid relief. Morgan Petronelli. March 3, 2020. Dermatology Times. https://www.dermatologytimes.com/rosacea/sol-gels-rosacea-cream-may-offer-patients-rapid-relief

Recent phase 3 data suggests a novel 5% microencapsulated benzoyl peroxide cream (Epsolay, Sol-Gel) may be a quick, effective treatment option for patients with papulopustular rosacea (PPR). Currently, benzoyl peroxide is not approved by the U.S. Food and Drug Administration (FDA) to treat rosacea and is known to potentially cause skin irritation, including stinging, burning and erythema in individuals with PPR. Sol Gel's patented microencapsulation technology aims to reduce this risk by encapsulating the benzoyl peroxide inside porous silica microcapsules, according to the company. This generates a barrier between the skin and the drug — with the microcapsules dispensing doses of the drug while the barrier reduces benzoyl peroxide's oxidative effect, which can cause skin irritation. Researchers of the phase 3, identical, vehicle-controlled, double-blind clinical studies (SGT 54-01 and SGT 54-02) investigated the efficacy and safety of 5% microencapsulated benzoyl peroxide cream for patients with PPR. The studies consisted of 733 patients 18 years and older with moderate-to-severe PPR who were enrolled from 54 sites across the U.S. and randomized (2:1 ratio) to receive either 5% microencapsulated benzoyl peroxide cream (n=495) or vehicle (n=240) once daily for 12 weeks. During the studies, patients were evaluated in 2-week intervals after initial treatment (week 2, 4, 6, 8 and 12), in which a number of patients treated with microencapsulated benzoyl peroxide demonstrated significant efficacy at week 2 compared to those who received vehicle. "While we expected to see strong efficacy and tolerability with Epsolay, the rapid efficacy was a standout in our phase 3 studies," says Alon Seri-Levy, M.D., CEO of Sol-Gel, Israel. Sol-Gel reports all primary and secondary endpoints were met in each study, according to a company press release. Primary endpoints for SGT 54-02 and SGT 54-02 included the a proportion of patients achieving "clear" or "almost clear" on the Investigator's Global Assessment (IGA) scale at week 12 (43.5% versus 16.1% vehicle, 50.1% versus 25.9% vehicle respectively) and absolute mean reduction from baseline in inflammatory lesion count (-17.4 versus -9.5 vehicle, -20.3 versus -13.3 vehicle respectively). Secondary endpoints were also met and included the proportion of participants that achieved an IGA score of "clear" or "almost clear" and an absolute mean change in inflammatory lesion count from baseline at weeks 4 and 8. The company reports a low rate of cutaneous side effects, noting the drug appears to be well-tolerated and safe. Adverse events during the trials included application site pain and erythema in 3.4% of patients. Additionally, while there were no-treatment-related

serious adverse events; researchers reported that a combined 11 participants discontinued treatment (9 benzoyl peroxide, 1 vehicle) due to adverse events. “It’s very difficult for patients of any dermatological disease, let alone rosacea, to wait months for a positive clinical result. That a quarter of Epsolay patients in both trials reached their treatment goals within a month, when the efficacy of existing topical products can be quite slow, is clinically meaningful and illustrates a clear unmet need within a rapidly growing marketplace,” says Dr. Seri-Levy. Sol-Gel plans to submit a New Drug Application (NDA) for the 5% microencapsulated benzoyl peroxide cream to the FDA during the first half of 2020, according to their 2020 pipeline update. If accepted and approved by the FDA, the drug could become the first approved prescription single-active benzoyl peroxide product in the US.

Fabrication and characterization of tretinoin-loaded nanofiber for topical skin delivery. Khoshbakht S, Asghari-Sana F, Fathi-Azarbayjani A, Sharifi Y. Biomater Res. 2020 Mar 2;24:8. doi: 10.1186/s40824-020-00186-3. eCollection 2020. https://www.ncbi.nlm.nih.gov/pubmed/32161662

Background: Tretinoin or all-trans retinoic acid is used in the treatment of acne vulgaris and photo-aging. This work aims to develop tretinoin-loaded nanofibers as a potential anti-acne patch and to investigate its physicochemical characteristics. Method: Nanofibers were produced via electrospinning method and surface topography was evaluated by Field Emission Scanning Electron Microscopy (FESEM). The functional groups of polymer and the drug molecule and the possible interactions were studied by Fourier Transform Infrared Spectroscopy (FTIR). Drug release studies were carried out by total immersion method at 25 °C and 32 °C. Tretinoin stability was evaluated at room temperature and fridge for 45 days. The possibility of synergistic antibacterial activity of tretinoin and erythromycin combination was investigated on Staphylococcus aureus (ATCC® 25923™) and (ATCC® 29213™) by Kirby Bauer disc diffusion method. Results: Uniform fibers without drug crystals were fabricated via electrospinning. Drug-loaded nanofibers show inherent stability under various storage conditions. Electrospun nanofibers showed a prolonged release of tretinoin. The stability of formulations in FT was higher than RT. Disc diffusion tests did not show any synergism in the antibacterial activity of erythromycin when used in combination with tretinoin. Conclusion: It can be anticipated that the easy fabrication, low costs and dosing frequency of the construct reported here provide a platform that can be adapted for on-demand delivery of tretinoin.

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Biguanides induce acute de novo lipogenesis in human primary sebocytes. Nicoll J, Buehrer BM. Clin Cosmet Investig Dermatol. 2020 Feb 24;13:197-207. doi: 10.2147/CCID.S243154. eCollection 2020. https://www.ncbi.nlm.nih.gov/pubmed/32158247

Introduction: Acne arises during puberty, in part, due to elevated hormones and growth factors which stimulate de novo lipogenesis (DNL) in primary sebocytes to significantly increase sebum production. Oral isotretinoin is an effective acne therapy, reducing sebum production through inducing apoptosis in sebocytes. However, isotretinoin is teratogenic and has additional unwanted side effects, including an initial acne flare-up, which limits its utility. The biguanide, metformin has been found to alleviate severe acne in women with polycystic ovary syndrome (PCOS) through normalization of their insulin and androgen hormone levels. Metformin's broader effectiveness to improve acne in non-PCOS populations lacks significant clinical support. In an effort to determine whether biguanides directly affect sebogenesis, we investigated their ability to alter DNL in cell-based assays in vitro. Methods: De novo lipogenesis was measured in human primary sebocytes using [14C]-acetate labeling. Lipid species analysis was performed by extracting newly synthesized lipids and subjecting them to thin layer chromatography. Gene expression

changes in sebocytes were identified through qPCR analysis of isolated RNA. Metabolic parameters including oxygen consumption rate, lactate production and activation of adenosine monophosphate-dependent protein kinase (AMPK) were assessed in human primary sebocytes. Results: Using human primary sebocytes, we found that biguanides, isotretinoin and azithromycin induced an acute dose and time-dependent increase in [14C]-acetate labeling of neutral lipids, while AICAR, an AMPK activator, inhibited this DNL response. Biguanides did not activate AMPK in sebocytes, however, they significantly reduced oxygen consumption rate and increased lactate production. Treatment with biguanides, but not isotretinoin, significantly upregulated ACSS2 gene expression in primary sebocytes and showed synergism with lipogenic activators to induce DNL genes. Discussion: These changes are consistent with an acute increase in sebocyte lipogenesis and support the potential of biguanides to cause an initial flare-up in patients suffering from severe acne.

Clinical Reviews

Acne and the lesbian, gay, bisexual, or transgender teenager. Ragmanauskaite L, Kahn B, Ly B, Yeung H. Dermatol Clin. 2020 Apr;38(2):219-226. doi: 10.1016/j.det.2019.10.006. Epub 2019 Nov 26. https://www.ncbi.nlm.nih.gov/pubmed/32115131

Although most teenagers experience acne, for sexual and gender minority teenagers, acne could be more challenging and require specific psychosocial considerations. Acne may be more strongly associated with mental health issues in sexual and gender minority adolescents. Acne development during puberty may trigger gender dysphoria in transgender patients. Transgender and gender nonbinary patients receiving testosterone therapy may experience new or worsening acne. Comprehensive care for moderate to severe acne in sexual and gender minority adolescents should include culturally competent discussions about sexual behaviors, contraception, and/or gender-affirmation treatment plans.

Hidradenitis suppurativa. Sabat R, Jemec GBE, Matusiak Ł, et al. Nat Rev Dis Primers. 2020 Mar 12;6(1):18. doi: 10.1038/s41572-020-0149-1. https://www.ncbi.nlm.nih.gov/pubmed/32165620

Hidradenitis suppurativa (HS; also designated as acne inversa) is a chronic inflammatory disorder, which affects the intertriginous skin and is associated with numerous systemic comorbidities. The estimated prevalence of HS is ~1% in most studied countries. Typically starting in early adulthood, cutaneous inflamed nodules, abscesses and pus-discharging tunnels develop in axillary, inguinal, gluteal and perianal body sites. The comorbidities of HS include metabolic and cardiovascular disorders, which contribute to reduced life expectancy. A genetic predisposition, smoking, obesity and hormonal factors are established aetiological factors for HS. Cutaneous changes seem to start around hair follicles and involve activation of cells of the innate and adaptive immune systems, with pivotal roles for pro-inflammatory cytokines such as tumour necrosis factor, IL-1β and IL-17. The unrestricted and chronic immune response eventually leads to severe pain, pus discharge, irreversible tissue destruction and scar development. HS has profound negative effects on patients' quality of life, which often culminate in social withdrawal, unemployment, depression and suicidal thoughts. The therapeutic options for HS comprise antibiotic treatment, neutralization of tumour necrosis factor and surgical intervention together with lifestyle modification. Nevertheless, there is an enormous need for awareness of HS, understanding of its pathogenesis and novel treatments.

Off-label dermatologic uses of IL-17 inhibitors. Wu KK, Dao H Jr. Dermatolog Treat. 2020 Mar 9:1-7. doi: 10.1080/09546634.2020.1737638. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32116066

IL-17 inhibitors, including secukinumab, brodalumab, and ixekizumab, have been U.S. Food and Drug Administration (FDA) approved for the treatment of psoriasis. In addition to psoriasis, IL-17 has been implicated in the pathophysiology of other inflammatory skin conditions. This review aims to synthesize and interpret the literature evaluating the off-label dermatologic uses of IL-17 inhibitors. We performed searches in PubMed and ClinicalTrials.gov for clinical trials, observational studies, case series, and case reports evaluating non-psoriatic uses of the three IL-17 inhibitors. Studies evaluated the efficacy of IL-17 inhibitors for the following conditions: hidradenitis suppurativa (HS), pityriasis rubra pilaris (PRP), Behçet's disease, alopecia areata, and allergic contact dermatitis. Based on the available literature, secukinumab appears to be a potential treatment for HS, PRP, and Behçet's disease, while ixekizumab appears to be a potential treatment for HS and PRP. However, more clinical trials data are needed to adequately assess the safety and efficacy of IL-17 inhibitors for the treatment of these conditions.

The patient experience of pain in hidradenitis suppurativa. Patel ZS, Hoffman LK, Sutton L, et al. Br J Dermatol. 2020 Mar 5. doi: 10.1111/bjd.19016. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32134499

Nielsen et al.1 recently highlighted the need for additional studies detailing hidradenitis suppurativa (HS) pain before giving specific treatment recommendations. Few studies have evaluated HS-specific pain using patients' own words and this study was designed to address this gap. A descriptive understanding of different elements of the pain experience will aid dermatologists, pain management specialists and health psychologists in the comprehensive, interdisciplinary assessment and treatment of HS.

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Paradoxical hidradenitis suppurativa in patients receiving TNF-α inhibitors: Case series, systematic review, and case meta-analysis. Salvador-Rodriguez L, Montero-Vílchez T, Arias-Santiago S, Molina-Leyva A. Dermatology. 2020 Mar 5:1-7. doi: 10.1159/000506074. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32135533

Background/aims: TNF-α inhibitors represent the most advanced approved therapeutic option for moderate and severe forms of hidradenitis suppurativa (HS). However, in recent years, cases of paradoxical HS secondary to the use of these biological drugs have been described, with very few cases reported in the literature. The aims of this study are (1) to present 2 new cases of paradoxical HS and (2) to perform a systematic review of scientific evidence regarding paradoxical HS with TNF-α inhibitors. Material and methods: This is a retrospective study in which we searched all the cases of paradoxical HS secondary to the use of TNF-α inhibitors published in the literature and included two additional cases observed in our clinical practice. Results: A total of 34 patients under TNF-α inhibitor treatment were included (adalimumab = 21; infliximab = 9; etanercept = 4). The median delay from exposure to TNF-α inhibitor and the development of paradoxical HS was 12 months (range 1-72). The majority of patients were Hurley stage II (58.8%). Clinical improvement and complete remission were more frequent when the TNF-α inhibitor was stopped or switched to another biological agent with a different therapeutic target rather than maintenance or change to another TNF-α inhibitor. Conclusions: Paradoxical HS is an unusual adverse effect of TNF-α inhibitors. When this adverse effect appears, interruption or substitution of treatment is associated with a better clinical outcome.

Expression of koebnerisin (S100A15) and calgranulin A (S100A8) in lesional and perilesional skin in patients suffering from hidradenitis suppurativa. Batycka-Baran A, Koziol M, Bieniek A, et al. J Eur Acad Dermatol Venereol. 2020 Mar 2. doi: 10.1111/jdv.16320. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32119136

Hidradenitis suppurativa (HS) is a chronic, recurrent inflammatory skin disease with the involvement of intertriginous areas. Recently, a crucial role of aberrant innate immune response and keratinocyte activation in the pathogenesis of HS has been suggested 1-6. S100 proteins have emerged as an important player of innate immunity.

Acne vulgaris: Treatment made easy for the primary care physician. Berry K, Lim J, Zaenglein AL. Pediatr Ann. 2020 Mar 1;49(3):e109-e115. doi: 10.3928/19382359-20200211-01. https://www.ncbi.nlm.nih.gov/pubmed/32155276

Acne is the most common skin condition observed in adolescent and preadolescent patients. Pediatric providers are on the forefront of managing the disease, often as a secondary concern in a busy practice. Therefore, every provider needs to have an acne treatment plan that is effective, easy to communicate, and simple to follow. This article provides treatment rationale and guidelines-based recommendations for the initial treatment of acne, tips for troubleshooting any side effects, and a plan for subsequent follow-up to maintain good control.

Leflunomide-induced hidradenitis suppurativa. Machan A, Azendour H, Toufik H, et al. Case Rep Rheumatol. 2020 Feb 18;2020:3549491. doi: 10.1155/2020/3549491. eCollection 2020.
https://www.ncbi.nlm.nih.gov/pubmed/32148994

Hidradenitis suppurativa is an inflammatory disease of the pilosebaceous unit with a chronic intermittent course and a devastating effect on quality of life. Rare reports of drug-induced hidradenitis suppurativa exist. We report on 2 women on follow-up for rheumatoid arthritis, who presented hidradenitis suppurativa after different periods of treatment with leflunomide and who improved few weeks after discontinuation of the medication.

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Treatment of lichen planopilaris with adalimumab in a patient with hidradenitis suppurativa and rheumatoid arthritis. Alam MS, LaBelle B. JAAD Case Rep. 2020 Feb 20;6(3):219-221. doi: 10.1016/j.jdcr.2019.12.016. eCollection 2020 Mar. https://www.ncbi.nlm.nih.gov/pubmed/32123715

Introduction: Adalimumab (Humira; Abbott Laboratories, Puerto Rico) is a recombinant human IgG1 monoclonal antibody for tumor necrosis factor and is a treatment option for both hidradenitis suppurativa (HS) and rheumatoid arthritis (RA). We report a case of a patient with lichen planopilaris (LPP) that had hair regrowth when treated with adalimumab, originally prescribed to the patient for RA and HS. Case Study: A 61-year-old woman was referred with a 2-year history of painful nodules and abscesses located on her groin, along with a 4-month history of patchy hair loss on her scalp. The patient's medical history included RA and Sjogren syndrome. The patient was under the care of a rheumatologist for RA diagnosed in 2011. Her RA was first managed with methotrexate. However, with the increase in her liver enzymes, methotrexate was stopped in 2011 and replaced with hydroxychloroquine (Plaquenil; Sanofi-Synthelabo Inc, Paris, France), 200 mg twice a day Monday to Friday. Leflunomide, 20 mg once a day, was added to her treatment plan in 2012, and sulfasalazine, 1000 mg twice a day in 2014. In 2015, hydroxychloroquine was replaced with certolizumab pegol (Cimzia; UCB Inc, Smyrna, GA), 400 mg every 2 weeks. When the patient was referred to our clinic, she was on triple therapy of certolizumab pegol, leflunomide, and sulfasalazine for her RA. Examination of the patient's groin presented characteristics of Hurley stage 2 HS, including comedones, active

inflammatory nodules, and abscesses with drainage and scarring. The patient received a treatment of clindamycin, 300 mg twice a day, and rifampin, 600 mg once a day for 30 days for her HS. The patient's scalp had patches of scaring alopecia in the frontal hairline, a receding hairline, and follicular hyperkeratosis consistent with frontal fibrosing alopecia. The frontal and parietal areas of the patient's scalp presented nonpruritic, multifocal patches of early scarring alopecia with red scaly patches suggestive of LPP. Scalp biopsies found scarring in the dermis with loss of hair follicles with perifollicular inflammatory infiltrate of lymphocytes and some perifollicular fibrosis consistent with LPP. The Periodic acid–Schiff stain did not show thickening of the basement membrane and there was no vacuolar change to suggest discoid lupus erythematosus. The patient was prescribed hydroxychloroquine, 200 mg twice a day Monday through Friday, and clobetasol 0.05% scalp lotion twice a day for 3 months for her LPP. At 2-month follow-up examination, the patient's LPP patches were not improved, and HS was resistant to clindamycin and rifampin. Therefore, certolizumab pegol and sulfasalazine were both discontinued, and the patient was started on adalimumab (160 mg week 1; 80 mg week 2; 40 mg weekly beginning at week 4). She continued to receive leflunomide therapy. During the next follow-up visit, the patient had been on adalimumab for 3 months and reported improvement in both HS and RA. On examination of the groin, hypertrophic scars were present, and there were no active HS nodules or abscesses. On examination of the scalp, LPP patches had hair regrowth and a reduction in redness. Further improvement of hair regrowth has been noted in the latest follow-up examination 6 months later. Discussion: Therapeutic management of LPP is challenging with current therapeutic options failing to alleviate active inflammation and prevent disease progression. Most remarkably, improvement of hair regrowth and reduction in inflammation of LPP patches were observed in this case. Improvement to hair regrowth comparable to that in this case has not been reported in the literature when patients were treated exclusively with hydroxychloroquine or with a combination of hydroxychloroquine and topical corticosteroids. Furthermore, studies have found that no patient had visible hair regrowth on hydroxychloroquine, and in some cases, patients continued to have progressive hair loss.3,4 Therefore, it is unlikely that the hair regrowth seen in this patient can be attributed to hydroxychloroquine alone, and it is for this reason that we suggest that adalimumab is responsible. The possibility of a combined therapeutic effect of adalimumab and hydroxychloroquine attributing to the physiologic findings may also be worth exploration. Adalimumab has already been reported to yield positive results in the management of cutaneous and oral lichen planus. Additionally, in a case report adalimumab was shown to successfully treat therapy-resistant LPP and folliculitis decalvans; however, hair regrowth was not reported or observed in photos. The cause and pathogenesis of LPP are unknown and recommended topical and systemic treatments often give unsatisfactory results. This case report highlights the promise for further understanding of this condition and its treatments. We suggest further investigation of adalimumab and hydroxychloroquine for the treatment of LPP.

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