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Industry News

Almirall and University of Michigan collaborate to gain understanding of disease drivers in hidradenitis suppurativa. March 15, 2022. DermWire, Practical Dermatology. https://practicaldermatology.com/news/almirall-and-university-of-michigan-collaborate-to-gain-understanding-of-disease-drivers-in-hidradenitis-suppurativa?c4src=news:feed

Almirall, S.A. entered into a collaboration agreement with the University of Michigan to accelerate the understanding of the factors that trigger hidradenitis suppurativa. Through this partnership, Almirall's expertise in skin diseases will be combined with the knowledge of the Dermatology Department at the University of Michigan, led by Dr. Johann E. Gudjonsson, to investigate relevant aspects of this disease such as chronic disease dissection and fibrosis. Despite substantial advances in the understanding of the disease in recent years, its pathogenesis is not fully understood, and it is associated with relevant comorbidities that significantly decrease the quality of life of patient. Moreover, the treatment of hidradenitis suppurativa is challenging and often requires surgery. “This partnership aims for a deeper understanding of hidradenitis suppurativa, a complex disease with large unmet medical needs. An in-depth knowledge of disease drivers will enable novel therapeutic approaches to provide treatment options for patients suffering from this severe condition,” states Dr. Thomas Huber, Research Director at Almirall. “This collaboration will provide resources that we hope will greatly increase our understanding of the critical disease mechanisms that drive the pathogenesis of hidradenitis using state-of-the-art technologies and analytics,” says Johann E. Gudjonsson, MD, PhD, professor of dermatology at University of Michigan Health, Michigan Medicine. “We envision that this will greatly accelerate the path from discovery to novel treatments, which will help us better treat this disease.” SHINE, Almirall’s initiative to drive sustainable innovation in dermatology. The partnership with the University of Michigan is part of SHINE, an initiative launched by Almirall that aims to boost innovation in dermatology by promoting collaborations with centers of excellence. This project will also allow for a deeper understanding of dermatological diseases, access to new technologies and the discovery of innovative therapeutic approaches. According to Almirall, this initiative is a further demonstration of the company's commitment to science excellence and collaboration with the scientific community to provide potential new solutions in key therapeutic areas. The project will create substantial value for Almirall by enriching the R&D portfolio with innovative projects and indication expansion, increasing the quality and speed of R&D execution.

Novan, Inc. acquires EPI Health. March 11, 2022. DermWire, Practical Dermatology. https://practicaldermatology.com/news/novan-inc-acquires-epi-health?c4src=news:feed

EPI Health is now a Novan Company. The EP Group today announced the acquisition of EPI Health, LLC by Novan, Inc. EPI Health is a leading company in the US dermatology sector with an established sales force and commercial team with existing, deep market relationships across the dermatology community. Novan is a specialty dermatology pharmaceutical company focused on developing therapeutic products for skin diseases. The Company is leveraging its core platform of nitric oxide-based science and clinical translation expertise to bring new medicines to market. Novan’s lead candidate, berdazimer gel 10.3%, performed well in a phase 3 study for the treatment of molluscum contagiosum. The company plans to submit a New Drug Application (NDA) to the FDA in the fourth quarter of this year. Following the acquisition, the company, known as EPI Health, a Novan Company, will employ approximately 100 staff with over 300 years of combined excellence in dermatology product development, commercialization, and sales. “EPI Health has established itself as a leading commercial dermatology company and I am excited about the synergies this transaction offers both Companies. As of today, we are now a fully integrated specialty dermatology company with a robust pipeline of development candidates and have the commercial infrastructure to realize the full value each program brings,” commented Paula Brown Stafford, Chairman and Chief Executive Officer of Novan. “I

am pleased to welcome EPI Health to the Novan family." "The combined entity has the opportunity to be a force multiplier for both companies, creating a pharmaceutical engine that has the capabilities to discover innovative therapies, develop them through the clinic and through a proven commercial platform bring medications to patients with unmet needs," added John Donofrio, President of EPI Health and now Chief Operating Officer of Novan.

New Medical Research

Efficacy of individualized homeopathic medicines in treatment of acne vulgaris: A double-blind, randomized, placebo-controlled trial. Rai S, Gupta GN, Singh S, et al. Homeopathy. 2022 Mar 17. doi: 10.1055/s-0041-1739397. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35299272/

Introduction: Acne is estimated to affect 9.4% of the global population, making it the 8th most prevalent disease worldwide. Acne vulgaris (AV) is among the diseases that directly affect quality of life. This trial evaluated the efficacy of individualized homeopathic medicines (IHM) against placebo in AV. Methods: In this double-blind, randomized, placebo-controlled trial conducted at the National Institute of Homoeopathy, India, 126 patients suffering from AV were randomized in a 1:1 ratio to receive either IHM (verum) in centesimal potencies or identical-looking placebo (control). The primary outcome measure was the Global Acne Grading System score; secondary outcomes were the Cardiff Acne Disability Index and Dermatology Life Quality Index questionnaires - all measured at baseline and 3 months after the intervention. Group differences and effect sizes (Cohen's d) were calculated on the intention-to-treat sample. Results: Overall, improvements were greater in the IHM group than placebo, with small to medium effect sizes after 3 months of intervention; however, the inter-group differences were statistically non-significant. Sulphur (17.5%), Natrum muriaticum (15.1%), Calcarea phosphorica (14.3%), Pulsatilla nigricans (10.3%), and Antimonium crudum (7.1%) were the most frequently prescribed medicines; Pulsatilla nigricans, Tuberculinum bovinum and Natrum muriaticum were the most effective of those used. No harms, unintended effects, homeopathic aggravations or any serious adverse events were reported from either group. Conclusion: There was non-significant direction of effect favoring homeopathy against placebo in the treatment of AV.

Ex vivo culture models of hidradenitis suppurativa for defining molecular pathogenesis and treatment efficacy of novel drugs. Goliwas KF, Kashyap MP, Khan J, et al. Inflammation. 2022 Mar 17. doi: 10.1007/s10753-022-01629-w. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35301634/

Hidradenitis suppurativa (HS) is a complex and debilitating inflammatory skin disease for which no effective treatment is available currently. This is partly because of the lack of adequate human or animal models for defining the pathobiology of the disease. Here, we describe the development of air-liquid (A-L) interface, liquid-submersion (L-S), and bioreactor (Bio) ex vivo skin culture models. All three ex vivo platforms were effective for culturing skin samples for up to 14 days. Tissue architecture and integrity remained intact for at least 3 days for healthy skin and 14 days for HS skin. Up to day 3, no significant differences were observed in % early apoptotic cells among all three platforms. However, late apoptotic/necrotic cell death was increased in HS skin at day 3 in A-L and Bio culture. These cultures efficiently support the growth of various cells populations, including keratinocytes and immune cells. Profiling inflammatory gene signatures in HS skin from these ex vivo cultures showed dynamic changes in expression at day 3 and day 14. All three culture platforms were necessary to represent the inflammatory gene status of HS skin at day 0, suggesting that not all gene clusters were identically altered in each culture method. Similarly, cytokine/chemokine profiling of the supernatants from vehicle- and drug-treated ex vivo HS cultures again showed a better prediction of drug efficacy against HS. Overall, development of these three culture systems collectively provides a powerful tool to uncover the pathobiology of HS progression and screen various drugs against HS.

A prospective, randomized, split-face study of concomitant administration of low-dose oral isotretinoin with 30% salicylic acid chemical peeling for the treatment of acne vulgaris in Asian population. Ye D, Xue H, Huang S, et al. Int J Dermatol. 2022 Mar 14. doi: 10.1111/ijd.16127. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35285944/

Background: Acne vulgaris (AV) is a common dermatosis. For moderate to severe AV, isotretinoin is the first-line treatment. Chemical peeling with supramolecular salicylic acid (SSA) was developed with water solubility and advanced skin penetration properties. In the present study, we investigated the efficacy and safety of oral low-dose isotretinoin combined with 30% SSA chemical peeling. Methods: Thirty-three moderate-to-severe acne patients were enrolled and received oral low-dose (0.2-0.4 mg/kg/d) isotretinoin and were then randomly assigned to receive 30% SSA or not on each side of the face with 2-week intervals for four sessions. Photos, the number of lesions, GAGS score, skin indices (melanin, erythema, pore, and texture), hydration, and transepidermal water loss (TEWL) were assessed at 0, 2, 4, 6, and 10 weeks. Side effects, efficacy, and satisfactory rates were recorded. Results: A total of 29 patients completed the study. Oral isotretinoin combined with SSA decreased response time compared to isotretinoin monotherapy, with significantly improved GAGS score, count of lesions, and efficacy (%) at 4-6 weeks. Skin indices of melanin, erythema, pore, and texture evaluated at week 10 were improved as well. Oral isotretinoin with or without SSA was effective by the lesion clearance; only SSA significantly improved the TEWL. All the side effects were temporary and tolerable, and no adverse effects were observed. Conclusion: Oral low-dose isotretinoin combined with 30% SSA is safe and effective, which advanced the onset of action and improves lesion clearance.

A split face study on the effect of an anti-acne product containing fermentation products of enterococcus faecalis CBT SL-5 on skin microbiome modification and acne improvement. Han HS, Shin SH, Choi BY, et al. J Microbiol. 2022 Mar 14. doi: 10.1007/s12275-022-1520-6. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35286606/

Antibiotic-resistant Cutibacterium acnes and dysbiosis of the skin microbiome are of increasing concern in acne treatment. Enterococcus faecalis, a widely used probiotic, has shown benefits for acne treatment by exerting antimicrobial activity against C. acnes. Therefore, this study aimed to investigate the efficacy and safety of an E. faecalis CBT SL-5-extract-containing lotion in patients with mild-to-moderate acne. Twenty patients were enrolled in this randomized, placebo-controlled, split-face comparative study. Patients were treated with E. faecalis lotion on one side of the face and a vehicle lotion on the other side for 4 weeks. The efficacy outcome measures included improvement in the investigators' assessment of acne severity, patient satisfaction, changes in skin parameters and diversity of the skin microbiome. The investigators' assessment score was significantly improved on the test side compared to the control side, after 2 weeks ($p = 0.009$) and 6 weeks ($p < 0.0005$). However, TEWL and skin hydration were not significantly different between the two groups. The phylogenetic diversity of the skin microbiota decreased over time in the skin samples of test side. In conclusion, E. faecalis CBT SL-5 extract can be a feasible and well-tolerated option for improving acne severity and skin microbiome dysbiosis in mild-to-moderate acne patients.

Minocycline suppresses lipogenesis via inhibition of p300 histone acetyltransferase activity in human SZ95 sebocytes. Shin HS, Zouboulis CC, Kim MK, et al. J Eur Acad Dermatol Venereol. 2022 Mar 14. doi: 10.1111/jdv.18079. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35285066/

Background: Minocycline is a second-generation tetracycline drug, which is widely used to treat diverse infectious and inflammatory diseases such as acne vulgaris. The effects of minocycline on acne vulgaris have been mainly attributed to its anti-inflammatory effect; however, its sebum-regulating effect and the relevance to epigenetic regulation in human sebaceous glands remain uninvestigated. Objectives: To identify the potential underlying epigenetic mechanism of sebum-inhibitory effects of minocycline in human SZ95 sebocytes. Methods: The quantity

of lipid droplets and the expression of key lipogenic genes were analyzed in minocycline-treated SZ95 sebocytes. To examine whether the sebum-inhibitory effects of minocycline are relevant to histone acetylation, we analyzed the effects of minocycline on p300 HAT and total HDAC activity. To elucidate the functional implication of p300 HAT inhibition by minocycline in sebocytes, we assessed the effect of p300 knockdown, overexpression, and inhibition on lipid accumulation in SZ95 sebocytes. Results: Minocycline suppressed the insulin and liver X receptor agonist-induced lipid accumulation and the expression of the key lipogenic transcription factor sterol regulatory element-binding protein 1 (SREBP1) and its downstream genes, fatty acid synthase (FAS) and acetyl-CoA carboxylase α (ACCα). Minocycline inhibited p300 HAT activity in a concentration-dependent manner, but demonstrated no effect on global HDAC activity, resulting in a significant decrease in histone acetylation. p300 knockdown significantly suppressed SREBP1 expression, histone acetylation, and lipid accumulation, whereas p300 overexpression enhanced these effects. Moreover, C646, a selective p300 HAT inhibitor, suppressed lipid accumulation and SREBP1 expression. Conclusions: Our findings revealed a novel sebum-regulating effect of minocycline. Moreover, as p300 HAT is a key epigenetic regulator of sebaceous lipogenesis, its inhibitors could be used for the treatment of acne vulgaris.

Minimum contact time of 1.25%, 2.5%, 5%, and 10% benzoyl peroxide for a bactericidal effect against cutibacterium acnes. Boonchaya P, Rojhirunsakool S, Kamanamool N, et al. Clin Cosmet Investig Dermatol. 2022 Mar 10;15:403-409. doi: 10.2147/CCID.S359055. eCollection 2022. https://pubmed.ncbi.nlm.nih.gov/35300432/
Purpose: Benzoyl peroxide (BPO) is an effective acne treatment and has been used as a cleanser and short contact therapy. However, data on the minimum contact time of BPO needed to kill Cutibacterium acnes are lacking. Thus, the aim of this study was to determine the minimum contact time of commonly used BPO concentrations for bactericidal effects on C. acnes. Materials and methods: An in vitro experimental study of clinically isolated C. acnes was performed to determine the minimal inhibitory concentration (MIC) of BPO using the broth microdilution method. Subsequently, the minimum contact times of various concentrations of BPO were evaluated, and their bactericidal effects were assessed by the plate count method. Results: The median MIC of BPO was 9375 μg/mL, which did not significantly differ between antibiotic-resistant and nonresistant C. acnes. The minimum contact time of BPO with C. acnes was significantly different among the BPO concentrations. For bactericidal activity against all isolates, 1.25%, 2.5%, 5%, and 10% BPO required 60 min, 15 min, 30 sec, and 30 sec, respectively. Conclusion: BPO demonstrated bactericidal activity against both antibiotic-resistant and antibiotic-susceptible C. acnes. The in vitro contact time needed to kill C. acnes was almost immediate with 5% or more BPO, but ≤ 2.5% BPO required longer contact times for bactericidal effects.

Acne information on Instagram: Quality of content and the role of dermatologists on social media. Ward S, Rojek N. J Drugs Dermatol. 2022 Mar 1;21(3):333-335. doi: 10.36849/JDD.6411. https://pubmed.ncbi.nlm.nih.gov/35254757/
While it is evident that many patients turn to social media for information about skin care, the quality and content of available information are not well characterized. In this study, we investigated acne-related information available on Instagram, one of the most popular social media platforms. We searched for the “top” Instagram posts using the hashtag #acne and characterized them based on their source and content. Posts were excluded if they were unrelated, not in English, or duplicates. 900 posts were assessed, and 439 were included. A majority of the content (258 posts) was generated by influencers, followed by retailers (97) and non-dermatologist providers (67). Dermatologists were responsible for 17 posts, accounting for <4% of the included content. 124 separate ingredients were mentioned as potential acne treatments. The ingredients with the most mention were beta-hydroxy acids (e.g., salicylic acid), alpha-hydroxy acids (e.g., glycolic acid), vitamin C, niacinamide, and sunscreen. 254 posts

recommended at least one specific intervention, and among these posts only 11% referenced a treatment with grade A evidence based on American Academy of Dermatology guidelines. A vast amount of content is readily available to patients on this platform. This content is heterogeneous in message and quality, and dermatologists are responsible for only a small portion of it.

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In vitro rheology predicts improved spreadability of tazarotene 0.045% lotion versus trifarotene 0.005% cream. Draelos Z, Tanghetti E, Werschler W, et al. J Drugs Dermatol. 2022 Mar 1;21(3):250-257. doi: 10.36849/JDD.6703. https://pubmed.ncbi.nlm.nih.gov/35254756/

Background: Intrinsic properties of vehicles used to deliver topical therapies can profoundly impact drug penetration, efficacy, patient acceptance, and treatment adherence. Therefore, advancements in vehicle technology demand sophisticated, quantitative approaches to describe and differentiate topical formulations. The objective of these studies was to quantitatively evaluate spreadability of two topical formulations for the treatment of acne via in vitro rheological measurement (how a substance's flow characteristics change under applied stress or force) and spreadability on living skin. Methods: Rheological characteristics (shear-thinning, rigidity, yield stress, and yield strain) of tazarotene 0.045% lotion and trifarotene 0.045% cream were measured using 5 samples of each product. In a clinical split-body study, each formulation was applied to one side of the back of healthy volunteers, and the extent to which each formulation could be spread was measured. Results: Compared to trifarotene cream, tazarotene lotion demonstrated lower mean viscosity, rigidity, and yield stress, and higher yield strain, suggesting a superior spreadability profile. This finding was confirmed in the split-body study of 30 healthy White adults, in which the average area of spread was significantly larger for tazarotene lotion than trifarotene cream (167.0 vs 130.3 cm2; P<0.001). Conclusions: Rheological assessment effectively predicted the superior spreadability of tazarotene 0.045% lotion versus trifarotene 0.005% cream on living skin. Given the importance of aesthetics of topical formulations, techniques to quantify these properties may have broad implications when developing novel vehicle formulations for dermatology.

A randomized, double blinded, split-face study of the efficacy of using a broad-spectrum sunscreen with anti-inflammatory agent to reduce post inflammatory hyperpigmentation after picosecond laser. Puaratanaarunkon T, Asawanonda P. Clin Cosmet Investig Dermatol. 2022 Feb 27;15:331-337. doi: 10.2147/CCID.S355329. eCollection 2022. https://pubmed.ncbi.nlm.nih.gov/35250287/

Background: Post inflammatory hyperpigmentation (PIH) is a sequela of laser procedures observed commonly in darker-skin individuals. In general, regular UV filters are beneficial in preventing PIH, but the comparison with sunscreen containing anti-inflammatory ingredients remains unexplored. Objective: To compare the efficacy of a sunscreen with anti-inflammatory agent (sunscreen A) in the reduction of PIH after a picosecond laser with that of regular sunscreen (sunscreen B). Methods: Fifty-nine acne vulgaris and acne scar patients with skin phototypes III and IV were treated with 1 session of picosecond laser with the microlens array to the whole face. Sunscreens A and B were randomized to be applied on either side of the face. Hyperpigmentation assessed by brown score mode on Visia®, acne quantity, porphyrins and patient satisfaction were evaluated at baseline, weeks 1, 2, 4 and 6. Results: Sunscreen A caused a higher reduction of the brown score compared to the other side but there was no statistically significant difference. Interestingly, a significant decrease of inflammatory acne lesions compared with baseline was observed as early as week 2 on the sunscreen A side (weeks 2, 4 and 6; P = 0.017, P = <0.001, and P = <0.001, respectively). Compared with sunscreen B, levels of porphyrins on sunscreen A side were significantly less at weeks 1 and 6 (weeks 1 and 6; P = 0.022 and P = 0.029, respectively). Conclusion: This study demonstrated a tendency towards lower post-laser pigmentation when the sunscreen with anti-inflammatory agents was applied. This product also had an effective outcome as an adjunctive treatment option of acne vulgaris.

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Biophysical and biological tools to better characterize the stability, safety and efficacy of a cosmeceutical for acne-prone skin. Sommatis S, Capillo MC, Maccario C, et al. Molecules. 2022 Feb 13;27(4):1255. doi: 10.3390/molecules27041255. https://pubmed.ncbi.nlm.nih.gov/35209043/

Background: Acne is a widespread skin disease, especially among adolescents. Following the COVID-19 pandemic and the use of masks, the problem has been affecting a greater number of people, and the attention of the skin care beauty routine cosmetics has been focused on the "Maskne", caused by the sebum excretion rate (SER) that stimulates microbial proliferation. Methods: The present study was focused on the rheological characterization and quality assurance of the preservative system of an anti-acne serum. The biological effectiveness (cytotoxicity-skin and eye irritation-antimicrobial, biofilm eradication and anti-inflammatory activity) was evaluated in a monolayer cell line of keratinocytes (HaCaT) and on 3D models (reconstructed human epidermis, RHE and human reconstructed corneal epithelium, HCE). The Cutibacterium acnes, as the most relevant acne-inducing bacterium, is chosen as a pro-inflammatory stimulus and to evaluate the antimicrobial activity of the serum. Results and Conclusions: Rheology allows to simulate serum behavior at rest, extrusion and application, so the serum could be defined as having a solid-like behavior and being pseudoplastic. The preservative system is in compliance with the criteria of the reference standard. Biological effectiveness evaluation shows non-cytotoxic and irritant behavior with a good antimicrobial and anti-inflammatory activity of the formulation, supporting the effectiveness of the serum for acne-prone skin treatment.
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Clinical Reviews

Rosacea, an infectious disease: why rosacea with papulopustules should be considered a demodicosis. A narrative review. Forton FMN. J Eur Acad Dermatol Venereol. 2022 Mar 12. doi: 10.1111/jdv.18049. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35278332/

Rosacea and demodicosis are common facial conditions in dermatology practice. While demodicosis is clearly the result of Demodex mite infestation, the pathogenicity of rosacea is still not sufficiently explained, so that it is defined by its symptoms, and not by its cause. It is usually considered as a disease of the immune system associated with neurogenic inflammation triggered by various factors (ultraviolet light, heat, spicy food, alcohol, stress, microorganisms). Its links with demodicosis remain controversial, although there is increasing evidence that Demodex mites may play a key role in the inflammatory process. Indeed, high Demodex densities are observed in nearly all cases of rosacea with papulopustules (PPR) and the papulopustules of rosacea can be effectively treated with topical acaricidal agents. Recent studies suggest that Demodex induces two opposite actions on host immunity: a defensive immune response aimed at eliminating the mite and an immunosuppressive action aimed at favoring its own proliferation. Moreover, the initial defensive immune response is likely diverted towards benefit for the mite, via T-cell exhaustion induced by the immunosuppressive properties of vascular endothelial growth factor (VEGF), which may also explain the favorable influence that the altered vascular background of rosacea seems to exert on Demodex proliferation. In this review, the evidence for and against a causal role of Demodex in rosacea is discussed, applying three systems traditionally used to attribute causality to a disease (modified Koch criteria, Hill criteria for causality, Rothman model). The findings suggest that PPR can reasonably be attributed to Demodex proliferation, which appears to be a necessary factor in the center of a causal network in which multiple co-factors interact and influence the occurrence and severity of inflammatory symptoms, from limited (pityriasis folliculorum) to more marked (PPR). PPR could therefore be considered as a chronic infection by Demodex mites with associated T-cell exhaustion.

Efficacy and safety of topical resorcinol 15% versus topical clindamycin 1% in the management of mild-to-moderate hidradenitis suppurativa: A retrospective study. Molinelli E, Brisigotti V, Simonetti O, et al. Dermatol Ther. 2022 Mar 12;e15439. doi: 10.1111/dth.15439. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35278025/

Topical and systemic antibiotic therapy remains the first-line treatment for mild-to-moderate hidradenitis suppurativa (HS). However, literature data on antibiotic resistance in HS are growing. A total of 134 patients with mild-to-moderate HS were retrospectively evaluated. Seventy-three patients (group A) received topical clindamycin 1% and 61 patients (group B) received topical resorcinol 15%. We evaluated the efficacy and tolerability of topical 15% resorcinol versus topical 1% clindamycin in mild-to-moderate HS, comparing the clinical response at 12 weeks of treatment. Patients treated with resorcinol 15% showed a significant improvement in Hidradenitis Suppurativa Clinical Response, International Hidradenitis Suppurativa Severity Score System, and Pain Visual Analogue Scale score from baseline compared to patients treated with clindamycin 1%. Topical resorcinol 15% could be a valid alternative to clindamycin in the management of acute and long-standing HS, limiting antibiotic use and antimicrobial resistance.

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Hidradenitis suppurativa in sexual and gender minorities: A review and considerations for providers. Gomez J, Barnes LA, Yost JM, et al. J Am Acad Dermatol. 2022 Mar 10;S0190-9622(22)00385-1. doi: 10.1016/j.jaad.2022.03.008. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35283243/

The literature on hidradenitis suppurativa (HS) in sexual and gender minorities (SGM) remains sparse. This review article aims to discuss critical factors for providers to consider in LGBTQIA patients with HS, including associated comorbidities, gender-affirming hormonal therapy, squamous cell carcinoma, infections in HIV-positive patients, and creating a welcoming clinic for SGM patients.

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The impact of racial differences on treatment strategies in hidradenitis suppurativa: A retrospective review. Robinson I, Lee L, Cotton C. J Drugs Dermatol. 2022 Mar 1;21(3):270-275. doi: 10.36849/JDD.6446. https://pubmed.ncbi.nlm.nih.gov/35254766/

Background: Hidradenitis suppurativa (HS) is a chronic disease that causes inflammatory lesions typically found in the axillary, inguinal, and perineal regions that can result in permanent scarring, fibrosis, and sinus tract formation. Although HS is more prevalent in patients with skin of color, research in HS has historically been performed in European and White populations. We aimed to explore management differences in skin of color HS patients compared to White patients. Methods: We performed a cross-sectional retrospective review of HS-associated outpatient encounters in the Medical University of South Carolina's Research Data Warehouse from 1/2017-12/2020. We performed descriptive statistics and chi-square analyses. Results: We found that Black HS patients were more likely to receive metformin and nonsteroidal anti-inflammatory drugs (NSAIDs) during HS-associated visits. We also found that Black patients were less likely to see dermatology and primary care and more likely to see surgery for their HS-associated visits. Lastly, skin of color HS patients were more likely to have a complex excision ($P<0.001$). Discussion: We found differences in the medical and procedural care provided to Black HS patients compared to White patients. A limitation of our study is the lack of information concerning efficacy of treatment interventions and clinical outcomes. Future studies should include a representative population of HS patients with a higher proportion of skin of color HS patients and include race as a variable when investigating medical and surgical outcomes to understand mechanisms that could explain differences in disease profiles across racial groups.

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Diagnosing and managing hidradenitis suppurativa in pediatrics. Collier EK, Sachdeva M, Yazdani S, et al. Pediatr Ann. 2022 Mar;51(3):e123-e127. doi: 10.3928/19382359-20220222-02. Epub 2022 Mar 1. https://pubmed.ncbi.nlm.nih.gov/35293815/

Hidradenitis suppurativa (HS) is a debilitating chronic inflammatory skin disease that presents as exquisitely tender abscesses, draining fistulae, and sinus tracts. HS can lead to significant impairments in patients' quality of life, especially for children and adolescents who face challenges related to self-esteem and physical and emotional development. Severe long-term physical sequelae of inadequately treated HS include extensive scarring, urogenital strictures, immobility, and squamous cell carcinoma; emotional sequelae include depression, anxiety, and suicidal ideation. Many of the devastating long-term sequelae associated with HS can be prevented with early recognition and proper collaborative management. This article reviews strategies to aid pediatricians in early diagnosis of HS and provides clinical pearls for management and prevention of disease flares.

Combined effect of microneedling and platelet-rich plasma for the treatment of acne scars: A meta-analysis. Kang C, Lu D. Front Med (Lausanne). 2022 Feb 14;8:788754. doi: 10.3389/fmed.2021.788754. eCollection 2021. https://pubmed.ncbi.nlm.nih.gov/35237616/

Background: Microneedling is a promising method for the treatment of acne scars, while the effect of microneedling combined with platelet-rich plasma (PRP) remains unknown. We performed a meta-analysis of controlled studies to compare the efficacy and safety of microneedling treatment with and without additional PRP in patients with acne scars. Methods: Randomized and non-randomized controlled studies were identified by search of Medline, Embase, and Cochrane's Library databases. Results were pooled with a random-effects model, incorporating the possible heterogeneity. Results: Four randomized and 10 split-face non-randomized controlled studies with 472 patients were included. Compared to microneedling therapy without PRP, combined treatment with microneedling and PRP was associated with increased odds of clinical improvement of >50% in Goodman's qualitative scale [GQS: odds ratio (OR): 2.97, 95% confidence interval (CI): 1.96-4.51, $p < 0.001$; $I^2 = 0\%$], and a significantly improved mean GQS score (mean difference: -0.32, 95% CI: -0.44 to -0.20, $p < 0.001$; $I^2 = 0\%$). Combined treatment was associated with a higher patient satisfying rate (OR: 4.15, 95% CI: 2.13 to 8.09, $p < 0.001$; $I^2 = 53\%$), while the incidence of severe adverse events such as severe erythema (OR: 1.59, 95% CI:.73 to 3.46, $P = 0.24$; $I^2 = 0\%$) and severe edema (OR: 1.14, 95% CI: 0.47 to 2.76, $P = 0.77$; $I^2 = 0\%$) were not significantly different. Conclusions: Combined treatment with microneedling with PRP is more effective than microneedling without PRP for patients with acne scars.

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Efficacy and safety of dapsone gel for acne: A systematic review and meta-analysis. Wang X, Wang Z, Sun L, et al. Ann Palliat Med. 2022 Feb;11(2):611-620. doi: 10.21037/apm-21-3935. https://pubmed.ncbi.nlm.nih.gov/35249339/

Background: First-line medications for acne vulgaris include retinoids and antibiotics. Dapsone is a topical drug approved by the U.S. Food and Drug Administration for the treatment of acne. However, due to its side effects, the clinical application of dapsone has not been promoted, and the value of the medication is still unclear. The aim of this study is to determine the efficacy and safety of dapsone gel in patients with acne. Methods: Systematic searches were performed using the following databases on January 4, 2020: PubMed, EMBASE, Cochrane Central Register of Controlled Trials, China National Knowledge Infrastructure (CNKI), China Biomedical Literature Service System (SinoMed), China Science and Technology Journal Database (CQVIP), and Wanfang Data Knowledge Service Platform. A meta-analysis of randomized controlled trials was then conducted to analyze the efficacy and adverse events of dapsone gel treatment compared with excipient and other drug therapies. RevMan 5.3 software was used to calculate the odds ratio (OR), and the confidence interval (CI) was 95%. Results: Data of 11,424 participants across

7 trials which met the inclusion criteria were analyzed. Meta-analysis showed that dapsone gel alone or dapsone gel combined with isotretinoin was superior to excipient alone or oral isotretinoin alone in the treatment of acne (OR =1.51, 95% CI: 1.38-1.66, P<0.0001 random effects model, I2=0%). This indicates that dapsone gel is effective for the treatment of acne. We also found that dapsone gel is a more effective treatment for females (OR =1.80, 95% CI: 1.46-2.23). There was no significant difference in the incidence of adverse events between the dapsone group and the control group (OR =0.94, 95% CI: 0.82-1.14, P=0.24 random effects model; I2=29%). The common local adverse reactions in the dapsone group, such as dryness, heat, and eczema, were not statistically significant compared with those in the control group, and the side effects were transient. Discussion: Dapsone gel is effective in treating acne, and there is no significant difference in adverse events compared with other drugs.
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A systematic review and meta-analysis on the effects of the ultra-pulse CO2 fractional laser in the treatment of depressed acne scars. Lin L, Liao G, Chen J, Chen X. Ann Palliat Med. 2022 Feb;11(2):743-755. doi: 10.21037/apm-22-70. https://pubmed.ncbi.nlm.nih.gov/35249351/
Background: Acne is a chronic inflammatory disease that occurs in the sebaceous glands of the hair follicles. Depressed acne scars, also known as depressed scars, remain after recovery. Clinical treatments of depressed scars include chemical peels, surgical treatments, radio frequency treatments, and laser treatments. Ultra-pulse carbon dioxide (CO2) fractional laser treatment has become the main method for treating depressed scars in recent years, but there are no systematic reports on the effectiveness and safety of this treatment. Methods: English databases, including PubMed, Embase, and Ovid-Medline, were searched to retrieve relevant articles. The search period ran from the establishment of the databases to April 2021. The search terms included CO2 lattice laser, depressed acne scars, depressed scars, and effectiveness. Results: A total of 6 articles comprising 467 patients with depressed acne scars were included in the meta-analysis. The results showed that patients treated with ultra-pulsed CO2 fractionated laser scored higher in skin smoothness compared to other methods [standard mean difference (SMD) =0.49, 95% confidence interval (CI): 0.13-0.84; P=0.008], and significantly higher total skin lesion scores (SMD =0.35, 95% CI: -0.00 to 0.70; P=0.05). Discussion: A total of 6 articles were included in this study on the clinical efficacy of the ultra-pulse CO2 fractional laser in the treatment of depressed acne scars. The study found that compared to other treatments, this laser had a better curative effect in terms of the effective rate and patient skin smoothness score.
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