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American Acne & Rosacea Society Member Newsletter | www.acneandrosacea.org

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AARS News

Join us at the AARS Annual Networking Reception – Friday, March 17, 2023!

Our 16th Annual AARS Networking Reception in conjunction with the annual meeting of the American Academy of Dermatology (AAD) will take place on Friday, March 17, 2023 at the Vue Orleans located adjacent to the Four Seasons Hotel in New Orleans, Louisiana. Come meet the AARS Board of Directors and learn more about the AARS programs and member benefits! All members, corporate benefactors, researchers, and their guests are welcome to attend! Register now!

Act Now: Comment on iPLEDGE Program; FDA to Meet Next Month

FDA is assessing the iPLEDGE program and potential modifications. The public comment period is now open. This is your chance to weigh in on the program and proposed modifications. You can also encourage patients to share their iPLEDGE stories. The FDA Drug Safety and Risk Management Advisory Committee and the Dermatologic and Ophthalmic Drugs Advisory Committee will meet March 28 and 29, 2023, from 10 a.m. to 4 p.m. ET each day. Comments received on or before March 14, 2023 will be provided to the committees. Comments received until March 27 will be taken into consideration by FDA. Learn more at the AARS information page where you can hear from John Barbieri, MD, MBA, FAAD, AARS member, about plans the American Academy of Dermatology Association (AADA) has with the FDA for the virtual Joint Meeting of the Drug Safety and Risk Management Advisory Committee and the Dermatologic and Ophthalmic Drugs Advisory Committee Meeting in March to discuss the iPLEDGE REMS online program and concerns from the AADA and AARS membership and their patients.

AARS Call for Grant Applications!

The AARS mission is to promote, support, develop and provide an educational forum for the exchange of information related to acne and rosacea and to fund clinical research opportunities for dermatology professionals who strive to improve the care of patients who suffer from acne and rosacea. Available research grant opportunities are listed below.

AARS CLINICAL RESEARCH AWARD ($10K)

The AARS is proud to offer research grants to advance clinical science, while nurturing new and experienced investigators in the field of acne and rosacea. Dermatology residents, research fellows, and recent graduates are encouraged to apply for clinical research grants. Please refer to the application (downloadable below) for eligibility and application requirements.

AARS Clinical Research Award Grant Application

AARS RESEARCH SCHOLAR AWARD ($75K)

The AARS is excited to invite investigators working at the level of Instructor through Associate Professor in the field of acne or rosacea to apply for the Research Scholar Award. The individual selected for the award must have a strong career goal within the field of dermatology generally and be dedicated to furthering knowledge concerning acne or rosacea specifically. Please refer to the application (downloadable below) for eligibility and application requirements.

AARS Research Scholar Award Grant Application

Call for AARS Volunteers in 2023

We have a variety of programs this year interacting with patients and our members that we'd love to include more dermatologists and dermatology NPs and PAs. We are launching a new case discussion virtual series, ongoing

publication and interview opportunities, social media activities, and more! If you're interested, please email Stacey Moore, AARS Executive Director at info@aarsmember.org for more information.

New Medical Research

The usefulness of a dermocosmetic containing Myrtus communis extract and azelaic acid for maintenance phase of adult female acne: Results from a randomized exploratory investigator-blinded comparative study. Bagatin E, Thouvenin MD, Bacquey A, et al. J Eur Acad Dermatol Venereol. 2023 Mar;37 Suppl 2:26-30. doi: 10.1111/jdv.18795. https://pubmed.ncbi.nlm.nih.gov/36729399/

Background: Acne is a very common condition. Currently, there are relatively few studies available to help guidance-based decisions for its long-term management, especially studies with cosmetic care products. We have developed a skin care product dedicated to adult female acne. Objectives: Evaluate the efficacy and tolerance of the test product containing Myrtus communis extract and azelaic acid compared with a light moisturizing cream (LCM) in adult females in the acne maintenance phase. Methods: A clinical study was conducted as a Brazilian, multicentre, randomized, investigator-blinded trial in adult females with clear or almost clear facial acne after anti-acne treatment. The test group (26 subjects) applied the test product and the comparative product group (27 subjects) applied LCM. Both groups applied the products twice daily on the whole face. Subjects were evaluated every 4 weeks over 16 weeks. Efficacy was evaluated according to acne relapse; Investigator's Global Assessment (IGA); acne lesions counting; AcneQoL questionnaire; Subject Global change Assessment (SGA) of acne severity; and the number of Post-Inflammatory Hyperpigmentation (PIH) and Post-Inflammatory Erythema (PIE) lesions. Tolerance was assessed according to a 5-point scale. Results: Over 16 weeks, the number of acne relapse was more than double in the comparator compared to the test product group (eight subjects vs. three subjects respectively). There was no statistical difference in the evolution of the mean IGA from baseline between the two groups; however, 85% of subjects were assessed as clear or almost clear in the test product group and 67% in the comparative group. Conclusions: This study demonstrated the effectiveness topical application of the test product compared to LCM on acne severity in the maintenance phase of adult female acne. Efficacy results after 16 weeks suggested a trend to limit acne relapses and a benefit of the test product in maintaining long-term remission.

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Distinct skin microbiome modulation following different topical acne treatments in mild acne vulgaris patients: A randomized, investigator-blinded exploratory study. Wongtada C, Prombutara P, Asawanonda P, et al. Exp Dermatol. 2023 Feb 26. doi: 10.1111/exd.14779. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36841971/

The effects of topical non-antibiotic acne treatment on skin microbiota have rarely been demonstrated. In the study, we randomized 45 mild acne vulgaris participants into 3 treatment groups, including a cream-gel dermocosmetic containing Aqua Posae Filiformis, lipohydroxy acid, salicylic acid, linoleic acid, niacinamide and piroctone olamine (DC), retinoic acid 0.025% cream (VAA), and benzoyl peroxide 2.5% gel (BP). At months 0, 1 and 3, skin specimens were swabbed from the cheek and forehead and sequenced by targeting V3-V4 regions of the 16S rRNA gene. QIIME2 was used to characterize bacterial communities. Acne severity, sebum level, and tolerability were assessed concomitantly in each visit. We found that both VAA and BP could significantly reduce the bacterial diversity at month 1 (P-value=0.010 and 0.004, respectively), while no significant reduction was observed in DC group. The microbiota compositions also significantly altered for beta diversity in all treatments (all P-value=0.001). An increased Cutibacterium with decreased Staphylococcus relative abundance was observed at month 1 and 3 in DC group, while

an opposite trend was demonstrated in VAA and BP groups. These findings suggest a potential impact of DC, VAA, and BP on the diversity and composition profiles of the skin microbiota in mild acne participants.

Effect of thirteen types of photodynamic therapy on inflammatory and non-inflammatory lesions in patients with acne: A network meta-analysis of randomized controlled trials. Long XX, Xie AD, Yang P, et al. Photodiagnosis Photodyn Ther. 2023 Feb 24;103365. doi: 10.1016/j.pdpdt.2023.103365. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36842473/

Background: Recent studies have demonstrated that photodynamic therapy (PDT) is safe and effective in treating acne vulgaris. The present study aimed to evaluate 13 PDTs on inflammatory and non-inflammatory lesions in patients with acne by a network meta-analysis (NMA) of randomized controlled trials (RCTs). Methods: The researchers of this paper searched PubMed, Embase, Web of Science, and the Cochrane Central Register of Controlled Trials (CENTRAL) databases from inception to March 2022 to identify suitable RCTs. The included studies were evaluated for methodological quality using the Cochrane bias risk assessment tool. Twenty-one RCTs were included, with a total sample size of 898 participants. Results: Network meta-analysis (NMA) revealed that indocyanine green (ICG) + near-infrared (NIR) diode laser, ICG+830 nm light-emitting diode (LED), indole-3-acetic acid (IAA) + 520 nm LED, and 5-aminolevulinic acid (ALA) + sunlight demonstrated obvious curative effects in patients with acne vulgaris. Importantly, ICG+NIR diode laser provided the greatest improvement in both inflammatory and non-inflammatory acne lesions (surface under the cumulative ranking curve [SUCRA]: 84.4% and 93.5%, respectively). Conclusions: Based on the NWM and SUCRA ranking, ICG + NIR diode laser can be considered more effective in treating acne than the other PDTs of the RCTs. However, this conclusion should be interpreted with caution due to the limitations of the present study.

The relationship of quality of life and acne severity with chronotype and insomnia in patients with acne vulgaris. Güler D, Soylu S, Güler HA. Arch Dermatol Res. 2023 Feb 21. doi: 10.1007/s00403-023-02569-7. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36809407/

This study aimed to examine the relationship between acne severity and quality of life, insomnia, and chronotype. This study included 151 patients diagnosed with acne vulgaris, aged 18-30 years. A sociodemographic data form was completed by the clinician, and acne severity was evaluated using the Global Acne Grading System (GAGS). The Visual Analogue Scale (VAS), Acne Quality of Life Scale (AQLS), Hospital Anxiety Depression Scale (HADS), Insomnia Severity Index (ISI), and Morningness-Eveningness Questionnaire (MEQ) were completed by the participants. There was a significant difference between the MEQ scores of the participants who were divided into three groups according to the severity of global acne, as mild, moderate, and severe. In the post hoc analysis, the MEQ scores of the patients with mild acne were determined to be significantly higher than the scores of the patients with moderate and severe acne. A statistically significant negative correlation was observed between the GAGS scores and the MEQ scores. In addition, a statistically significant positive correlation was found between the participants' ISI scores and AQLS scores. Considering the variables related to chronotype and sleep in the treatment planning for patients with acne vulgaris may be appropriate within the scope of integrative treatment.

The role of the topical nasal decongestant oxymetazoline as a novel therapeutic option for post-acne erythema: A split-face, double-blind, randomized, placebo-controlled trial. Washrawirul C, Puaratana-Arunkon T, Chongpison Y, et al. J Dermatol. 2023 Feb 20. doi: 10.1111/1346-8138.16749. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36806298/

Post-acne erythema (PAE) is one of the most common sequelae of acne inflammation. Unfortunately, the treatment of PAE remains challenging due to limited effective topical treatments. The objectives of this study were to evaluate

the efficacy and safety of topical oxymetazoline hydrochloride (OxH) 0.05% solution for PAE. This study was a split-face, participants-and investigators-blinded, randomized, placebo-controlled trial conducted between December 2021 and March 2022 in Bangkok, Thailand. Healthy adults aged from 18 to 45 years with mild to severe PAE, according to the Clinician's Erythema Assessment (CEA), on both sides of the face were eligible. After randomization, each participant applied the OxH to one side of their face and a placebo to the contralateral face twice daily for 12 weeks. The primary outcome was PAE lesion counts. The secondary outcomes were erythema index, clinical response rate at week 12 ("clear," "almost clear," or "at least two-grade improvement" by CEA), and patient satisfaction scores. A total of 30 participants were enrolled. The OxH-treated skin showed a significantly greater mean difference (MD) reduction in PAE lesion counts than the placebo after 8 weeks of treatment (4.30, 95% confidence interval [CI] 1.42-7.18). Similarly, the MD reduction of the erythema index was higher in the OxH-treated skin from the second week (11.82, 95% CI 8.48-15.15). Additionally, the OxH-treated side also achieved a higher clinical response rate after 8 weeks of treatment (40.00% vs. 6.67%; p = 0.002) and rated higher satisfaction than those using the placebo at the end of the study (mean [standard deviation] satisfaction score 8.30 [0.18] vs 7.40 [0.18], P < 0.001). There were no serious adverse events or flares of erythema during the study. In conclusion, our study demonstrated that the topical OxH 0.05% solution was effective, well-tolerated, and safe for reducing PAE without a rebound effect. It could be a choice of PAE management. Trial Registration: Thai Clinical Trials Registry No. TCTR20211207004.

Development of a polyherbal topical gel for the treatment of acne. Chellathurai BJ, Anburose R, Alyami MH, et al. Gels. 2023 Feb 17;9(2):163. doi: 10.3390/gels9020163. https://pubmed.ncbi.nlm.nih.gov/36826332/

The present work aimed to formulate and evaluate a polyherbal gel using Aloe barbadensis and extract of Vigna radiata for the treatment of acne, a disorder of the skin in which hair follicles and sebaceous glands are blocked, causing inflammation and redness of the skin. Aloe barbadensis pulp was collected and mixed with the extract of Vigna radiata and formulated into a gel using Carbopol 940, triethanolamine, and propylene glycol as the gelling agent, viscosity modifier, and pH modifier, respectively. The gel was evaluated for its antimicrobial properties against Staphylococcus aureus, Escherichia coli, and Candida albicans. Antimicrobial agents, such as gentamycin and fluconazole, were used as the standards. The developed formulation showed promising zone of inhibition. The gel was further evaluated for its physicochemical properties. The formulation showed a promising effect on acne together with the additive effect of Aloe barbadensis on skin.

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Hyaluronic acid-FGF2-derived peptide bioconjugates for suppression of FGFR2 and AR simultaneously as an acne antagonist. Su Z, Zhang Y, Cao J, et al. J Nanobiotechnology. 2023 Feb 17;21(1):55. doi: 10.1186/s12951-023-01812-7. https://pubmed.ncbi.nlm.nih.gov/36803994/

Acne is a chronic skin condition that has serious consequences for mental and social well-being because it frequently occurs on the face. Several acne treatment approaches have commonly been used but have been hampered by side effects or weak activity. Thus, the investigation of the safety and efficacy of anti-acne compounds is of considerable medical importance. Herein, an endogenous peptide (P5) derived from fibroblast growth factors 2 (FGF2) was conjugated to the polysaccharide hyaluronic acid (HA) to generate the bioconjugate nanoparticle HA-P5, which suppresses fibroblast growth factor receptors (FGFRs) to significantly rehabilitate acne lesions and reduce sebum accumulation in vivo and in vitro. Moreover, our results show that HA-P5 inhibits both fibroblast growth factor receptor 2 (FGFR2) and androgen receptor (AR) signaling in SZ95 cells, reverses the acne-prone transcriptome, and decreases sebum secretion. Furthermore, the cosuppression mechanism revealed that HA-P5 blocks FGFR2 activation, as well as the YTH N6-methyladenosine RNA binding protein F3 (YTHDF3) downstream molecules, including an N6-methyladenosine (m6A) reader that facilitates AR translation. More importantly, a significant

difference between HA-P5 and the commercial FGFR inhibitor AZD4547 is that HA-P5 does not trigger the overexpression of aldo-keto reductase family 1 member C3 (AKR1C3), which blocks acne treatment by catalyzing the synthesis of testosterone. Overall, we demonstrate that a polysaccharide-conjugated and naturally derived oligopeptide HA-P5 can alleviate acne and act as an optimal FGFR2 inhibitor and reveal that YTHDF3 plays a crucial role in signaling between FGFR2 and AR.
Download Reference Document

Abrocitinib for the treatment of moderate-to-severe atopic dermatitis. Villegas SC, Dima L. Am J Ther. 2023 Feb 17. doi: 10.1097/MJT.0000000000001608. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36799867/
Background: Atopic dermatitis (AD) is ranked as the third most prevalent skin condition with a worldwide prevalence of 2.4%. Atopic dermatitis is a common form of eczema. It develops in infancy or childhood and continues into adulthood with symptoms ranging from mild to severe. Pruritis and inflammation are the hallmark symptoms of AD. Mechanism of action, pharmacodynamics, and pharmacokinetics: Abrocitinib is a JAK1 selective inhibitor; inhibition results in a decreased interleukin (IL) 4 activation and decreased pruritis in a patient with AD. Abrocitinib is hepatically metabolized by multiple cytochrome P450 enzymes, and dose modification may be required when administered with concurrent medications. Clinical trials: At least 6 JAK1 Atopic Dermatitis Efficacy and Safety (JADE) trials were conducted evaluating Investigator's Global Assessment and Eczema Area and Severity Index score for efficacy. All JADE trials showed abrocitinib 100 mg and 200 mg doses efficacious when compared with placebo. Common adverse reactions were related to gastrointestinal disturbances, headache, and acne. Serious adverse reactions to assess risk for include serious infections, malignancy, major adverse cardiovascular events, and venous thromboembolisms. Therapeutic advance: Abrocitinib provides a valuable treatment option for patients with moderate-to-severe AD unresponsive to other therapies for those candidates without a high risk for significant adverse reaction associated with its use.

Paroxetine is an effective treatment for refractory erythema of rosacea: Primary results from the PRRERCT (Prospective Rosacea Refractory Erythema Randomized Clinical Trial). Wang B, Huang Y, Tang Y, et al. J Am Acad Dermatol. 2023 Feb 15;S0190-9622(23)00197-4. doi: 10.1016/j.jaad.2023.01.044. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36806645/
Background: Patients with refractory erythema of rosacea have limited treatment options. Objective: To evaluate the efficacy and safety of a 12-week course of paroxetine for moderate-to-severe erythema of rosacea. Methods: In a multicenter, randomized, double-blinded, placebo-controlled trial, patients with refractory erythema of rosacea were randomly assigned (1:1) to receive paroxetine 25 mg daily or placebo for 12 weeks. Results: Overall, 97 patients completed the study (paroxetine: 49; placebo: 48). The primary endpoint was the proportion of participants achieving Clinical Erythema Assessment (CEA) success (defined as CEA score of 0, 1 or ≥ 2-grade improvement from baseline) at week 12; this was significantly greater in the paroxetine group than in the placebo group (42.9% vs. 20.8%, P=0.02). Some secondary endpoints were met, such as flushing success with point reductions ≥2 (44.9% vs. 25.0%, p = 0.04) and improvement in overall flushing (2.49 ± 3.03 vs. 1.68 ± 2.27, P=0.047), burning sensation (46.9% vs. 18.8%, P=0.003), and depression (P=0.041). The most reported adverse events associated with paroxetine were dizziness, lethargy, nausea, dyspepsia, and muscle tremors. Limitations: Only a single-dosage regimen of paroxetine within a 12-week study was evaluated. Conclusion: Paroxetine is an effective and well-tolerated alternative treatment for moderate-to-severe erythema of rosacea.
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Prospective evaluation of a topical botanical skin care regimen on mild to moderate facial and truncal acne and mood. Nong Y, Gahoonia N, Rizzo J, et al. J Clin Med. 2023 Feb 13;12(4):1484. doi: 10.3390/jcm12041484. https://pubmed.ncbi.nlm.nih.gov/36836020/

Acne vulgaris is a common inflammatory condition that can be associated with profound psychosocial impacts. Conventional treatment includes topical retinoids, benzoyl peroxide, and antimicrobials, and some may cause irritation and skin dryness. In this 8-week open-label study, we examined the effects of a botanical skin care regimen (Codex Labs Shaant Balancing regimen) on mild to moderate facial and truncal acne. Twenty-four male and female subjects between the ages of 12 and 45 years were assessed for eligibility, 20 were enrolled, and 15 completed all study visits. Facial and truncal acne lesion counts, skin hydration, sebum excretion rate, and mood were assessed at baseline, week 4, and week 8. Total facial lesion counts (inflammatory and non-inflammatory lesions) decreased by 20.5% at week 4 ($p = 0.06$) and by 25.2% at week 8 ($p < 0.05$). Inflammatory lesion counts on the trunk were found to decrease at week 8 relative to baseline by 48% ($p < 0.05$). Forehead sebum excretion rate decreased by 40% at week 4 ($p = 0.07$) and 22% at week 8 ($p = 0.08$), and cheek skin hydration increased by 27.6% at week 4 ($p = 0.14$) and 65% at week 8 ($p = 0.10$). Participants also experienced significant improvement in components of a positive effect, such as feeling "strong" and "inspired", and a decrease in negative effects, such as feeling "irritable." Overall, the botanical skin care regimen was found to be well-tolerated. Our study suggests that a botanical skin care regimen may reduce facial and truncal acne lesion counts, increase skin hydration, reduce sebum production, and augment positive effects and moods in those with mild to moderate facial and truncal acne.

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The effect of the ketogenic diet on acne: Could it be a therapeutic tool? Barrea L, Cacciapuoti S, Megna M, et al. Crit Rev Food Sci Nutr. 2023 Feb 13;1-20. doi: 10.1080/10408398.2023.2176813. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36779329/

Acne is a chronic inflammatory disease of the pilosebaceous unit resulting from androgen-induced increased sebum production, altered keratinization, inflammation, and bacterial colonization of the hair follicles of the face, neck, chest and back by Propionibacterium acnes. Overall, inflammation and immune responses are strongly implicated in the pathogenesis of acne. Although early colonization with Propionibacterium acnes and family history may play an important role in the disease, it remains unclear exactly what triggers acne and how treatment affects disease progression. The influence of diet on acne disease is a growing research topic, yet few studies have examined the effects of diet on the development and clinical severity of acne disease, and the results have often been contradictory. Interestingly, very low-calorie ketogenic diet (VLCKD) has been associated with both significant reductions in body weight and inflammatory status through the production of ketone bodies and thus it has been expected to reduce the exacerbation of clinical manifestations or even block the trigger of acne disease. Given the paucity of studies regarding the implementation of VLCKD in the management of acne, this review aims to provide evidence from the available scientific literature to support the speculative use of VLCKD in the treatment of acne.

Topical administration of lactiplantibacillus plantarum (SkinDuo™) serum improves anti-acne properties. Podrini C, Schramm L, Marianantoni G, et al. Microorganisms. 2023 Feb 7;11(2):417. doi: 10.3390/microorganisms11020417. https://pubmed.ncbi.nlm.nih.gov/36838382/

The tailoring of the skin microbiome is challenging and is a research hotspot in the pathogenesis of immune-mediated inflammatory skin diseases such as acne. Commonly encountered preservatives used as functional ingredients have an impact on the skin microbiota and are known to inhibit the survival of skin commensal bacteria. The selected species is Lactiplantibacillus plantarum, formulated with natural enhancers for topical use (SkinDuo™). Ex vivo human skin models were used as a test system to assess the strain viability which was then validated on healthy

volunteers. SkinDuo™ showed increased viability over time for in vitro skin models and a stable viability of over 50% on healthy skin. The strain was tested on human primary sebocytes obtained from sebaceous gland rich areas of facial skin and inoculated with the most abundant bacteria from the skin microbiota. Results on human ex vivo sebaceous gland models with the virulent phylotype of Cutibacterium acnes and Staphylococcus epidermidis present a significant reduction in viability, lipid production, and anti-inflammatory markers. We have developed an innovative anti-acne serum with L. plantarum that mimics the over-production of lipids, anti-inflammatory properties, and improves acne-disease skin models. Based on these results, we suggest that SkinDuo™ may be introduced as an acne-mitigating agent.
Download Reference Document

Development of adapalene loaded liposome based gel for acne. Arooj A, Rehman AU, Iqbal M, et al. Gels. 2023 Feb 6;9(2):135. doi: 10.3390/gels9020135. https://pubmed.ncbi.nlm.nih.gov/36826305/
Retinoids are considered the mainstay treatment for moderate to severe acne. Adapalene, a third-generation retinoid, has physiochemical properties which hinder the effective delivery of the drug to the skin. Therefore, the current study aimed to develop and evaluate adapalene liposomal loaded gel (ADA-LP gel) for the effective management of acne to improve tolerability and delivery to targeted sites as compared to the conventional dosage form of the drug. A novel spontaneous phase transition method (SPT) was used to formulate liposomes. Liposomal formulation (ADA-LP) was prepared and optimized based on particle size, zeta potential, and PDI. Optimized formulation was further characterized by different techniques and loaded into Carbopol gel. In vitro drug release, ex vivo permeation, and in vivo studies were performed using the prepared adapalene-loaded liposomal-based gel. The in vivo study was done employing the testosterone-induced acne model in mice. The optimized formulation had a size of 181 nm, PDI 0.145, and a zeta potential of -35 mV, indicating that the formulation was stable. Encapsulation efficiency was 89.69 ± 0.5%. ADA-LPs were loaded into the gel. Prepared ADA-LP showed a 79 ± 0.02% release of drug in a sustained manner, within 24 h. The ex vivo permeability study showed a total of 43 ± 0.06 µg/cm2 of drug able to permeate through the skin within 24 h. Moreover, only 28.27 ± 0.04% was retained on the epidermis. The developed ADA-LP gel showed significant improvement in the acne lesions in mice with no visible scars and inflammation on the skin. Therefore, ADA-LP-based gel could be a promising carrier system for the safe and effective delivery of Adapalene.
Download Reference Document

Efficacy and safety of 1% clascoterone cream in patients aged > 12 years with acne vulgaris. Hebert A, Eichenfield L, Thiboutot D, et al. J Drugs Dermatol. 2023 Feb 1;22(2):174-181. doi: 10.36849/JDD.7000. https://pubmed.ncbi.nlm.nih.gov/36745367/
Background: Two randomized phase 3 studies evaluated efficacy and safety of 1% clascoterone cream, a topical androgen receptor inhibitor, in patients aged ≥9 years with moderate-to-severe facial acne vulgaris after 12 weeks of treatment. Objectives: To present a pooled data analysis of the efficacy and safety of 1% clascoterone cream after 12 weeks of treatment in patients aged ≥12 years from the 2 phase 3 trials. Methods: Patients were randomized 1:1 to twice-daily treatment of the whole face with clascoterone or vehicle. Primary efficacy outcomes were proportion of patients achieving treatment success (Investigator Global Assessment score of "clear" [0] or "almost clear" [1] with ≥2-point reduction from baseline) and absolute change from baseline (CFB) in noninflammatory lesion count and inflammatory lesion count; secondary efficacy outcomes included absolute CFB in total lesion count at week 12. Safety was assessed from treatment-emergent adverse events and local skin reactions. Results: 709/712 patients age ≥12 years were treated with clascoterone/vehicle. After 12 weeks, clascoterone was efficacious compared with vehicle, based on proportion of patients achieving treatment success (19.9% vs 7.7%) and CFB in noninflammatory lesion count (-20.8 vs -11.9), inflammatory lesion count (-19.7 vs -14.0), and total lesion count (-40.0

vs -26.1; all P<0.0001). Frequencies of local skin reactions were low and similar between treatment arms, with no new safety signals. Conclusions: Clascoterone is efficacious, with a favorable safety profile and low rates of local skin reactions in patients ≥12 years of age with facial acne vulgaris. (Clinicaltrials.gov NCT02608450 and NCT02608476) J Drugs Dermatol. 2023;22(2): doi:10.36849/JDD.7000.
Download Reference Document

Prescribing trends for acne vulgaris visits in the United States. Perche PO, Peck GM, Robinson L, et al. Antibiotics (Basel). 2023 Jan 28;12(2):269. doi: 10.3390/antibiotics12020269. https://pubmed.ncbi.nlm.nih.gov/36830180/
Acne vulgaris is the most common reason for pediatric patients and third most common reason for adult patients to seek care from a dermatologist in the US. However, referring providers may be reluctant to initiate patients on acne treatment or certain prescriptions. We assessed over-the-counter (OTC) and prescription acne (antibiotic and non-antibiotic) treatment rates to characterize differences by patient demographics and provider specialty. The National Ambulatory Medical Care Survey (NAMCS) was analyzed for all acne therapies prescribed for at least 10 unweighted visits between 1993 and 2016 (most recent years available). Prescription rates varied by age, with younger patients more likely to receive a prescription; insurance status, with privately insured patients more likely to receive a prescription; and across and within specialties, with dermatologists more likely to recommend a prescription medication than family medicine and pediatric providers. Among all forms of antibiotics for acne vulgaris, oral minocycline was the most commonly prescribed antibiotic by dermatologists, followed by oral doxycycline. Oral minocycline was also the most common antibiotic prescribed by family physicians, followed by oral doxycycline and oral clindamycin, respectively. Pediatricians appeared to be less likely to prescribe oral antibiotics for acne. The OTC topical antimicrobial benzoyl peroxide was the most utilized drug for acne among pediatricians, and it was also the most commonly recommended OTC drug for acne among dermatologists, family physicians, and pediatricians.
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Clinical Reviews

Recent advances in understanding inflammatory acne: Deciphering the relationship between cutibacterium acnes and Th17 inflammatory pathway. Mias C, Mengeaud V, Bessou-Touya S, Duplan H. J Eur Acad Dermatol Venereol. 2023 Mar;37 Suppl 2:3-11. doi: 10.1111/jdv.18794. https://pubmed.ncbi.nlm.nih.gov/36729400/
Acne vulgaris is a common chronic inflammatory skin disease of the pilosebaceous units. Four factors contribute to acne: hyperseborrhea and dysseborrhea, follicular hyperkeratinisation, skin microbiome dysbiosis and local immuno-inflammation. Recent key studies have highlighted a better understanding of the important role of Cutibacterium acnes (C. acnes) in the development of acne. Three major findings in the last decade include: (1) the ability of C. acnes to self-organize in a biofilm associated with a more virulent activity, (2) the loss of the C. acnes phylotype diversity and (3) the central role of the Th17 pathway in acne inflammation. Indeed, there is a close link between C. acnes and the activation of the Th17 immuno-inflammatory pathway at the initiation of acne development. These mechanisms are directly linked to the loss of C. acnes phylotype diversity during acne, with a predominance of the pro-pathogenic phylotype IA1. This specifically contributes to the induction of the Th17-mediated immuno-inflammatory response involving skin cells, such as keratinocytes, monocytes and sebocytes. These advancements have led to new insights into the underlying mechanisms which can be harnessed to develop novel treatments and diagnostic biomarkers. A major disadvantage of traditional treatment with topical antibiotics is that they induce cutaneous dysbiosis and antimicrobial resistance. Thus, future treatments would no longer aim to 'kill' C. acnes, but to maintain the skin microbiota balance allowing for tissue homeostasis, specifically, the restoration of C. acnes phylotype diversity. Here,

we provide an overview of some of the key processes involved in the pathogenesis of acne, with a focus on the prominent role of C. acnes and the Th17-inflammatory pathways involved.
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Highly purified microdroplet liquid injectable silicone for the treatment of acne scars in lighter and darker skin types: A retrospective review. Salame N, Brody HJ. Dermatol Surg. 2023 Feb 14. doi: 10.1097/DSS.0000000000003712. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36799864/
Background: Treatment of acne scarring in darker skin types is fraught with challenges. Highly purified liquid injectable silicone (LIS) is effective in the treatment of acne scars, although its use in darker skin types has yet to be evaluated. Objective: Retrospective evaluation of the safety and efficacy of highly purified LIS for the treatment of acne scars in lighter and darker skin types. Materials and methods: A retrospective chart review of patients who received highly purified LIS for acne scars between July 2010 and March 2021. Results: Two hundred six total treatments in 96 patients, 32.29% (n = 31) of whom were Fitzpatrick skin type IV (n = 20, 20.83%) and V (n = 11, 11.46%), with depressed and both broad-based and shallow acne scarring were reviewed. Mean age was 50.77 years (SD 16.77), and 83% were female. Complications such as granuloma formation, migration, extrusion of silicone, hyperpigmentation, hematoma, or infection were not observed. The average follow-up time was 6.31 years (SD 3.02). Conclusion: Highly purified LIS is a safe and effective permanent treatment for acne scars in all skin types. Injection of highly purified LIS using small volume microdroplet technique at 6- to 8-week intervals did not yield any complications, including in patients with darker skin types.

Role of the skin microbiota and intestinal microbiome in rosacea. Zhu W, Hamblin MR, Wen X. Front Microbiol. 2023 Feb 10;14:1108661. doi: 10.3389/fmicb.2023.1108661. eCollection 2023.
https://pubmed.ncbi.nlm.nih.gov/36846769/
Rosacea is a chronic inflammatory cutaneous disorder of uncertain etiology that mainly affects the centrofacial region, including cheeks, nose, chin, forehead, and eyes. The pathogenesis of rosacea remains unclear because it involves several complex factors. Additionally, the potential treatment methods need to be explored. We reviewed the common bacterial species in the skin microbiota and gut microbiota of rosacea patients such as Demodex folliculorum, Staphylococcus epidermidis, Bacillus oleronius, Cutibacterium acnes, and Helicobacter pylori and identified their role in the pathogenesis. Besides, we summarized the influence factors such as temperature and age on rosacea patients. We also systematically reviewed the commonly used clinical treatment methods, including antibiotics, probiotics. as well as their treatment mechanism and application precautions.

Clascoterone for treatment of acne. Manjaly C, Martinez J, Barbieri J, Mostaghimi A. Drugs Today (Barc). 2023 Feb;59(2):71-81. doi: 10.1358/dot.2023.59.2.3507749. https://pubmed.ncbi.nlm.nih.gov/36811407/
Clascoterone is a novel topical antiandrogen medication approved for the treatment of acne. Conventional oral antiandrogen treatments targeting acne such as combined oral contraceptives and spironolactone exert systemic hormonal effects which commonly preclude their usage in male patients while hampering their application in certain female patients. In contrast, clascoterone is a first-in-class antiandrogen proven to be both safe and effective for female and male patients above the age of 12. Outside of occasional localized skin irritation, clascoterone is usually well tolerated, however, some adolescents in a phase II clinical trial experienced biochemical evidence of HPA suppression, which resolved after discontinuing treatment. In this review, we provide an overview of clascoterone including its preclinical pharmacology, pharmacokinetics and metabolism, safety, clinical studies and indications.

Subcision for atrophic acne scarring: A comprehensive review of surgical instruments and combinatorial treatments. Vempati A, Zhou C, Tam C, et al. Clin Cosmet Investig Dermatol. 2023 Jan 18;16:125-134. doi: 10.2147/CCID.S397888. eCollection 2023. https://pubmed.ncbi.nlm.nih.gov/36698445/

Subcutaneous incisionless surgery, also known as subcision, is a minimally invasive procedure that is commonly indicated for the treatment of atrophic acne scars. In recent years, many new techniques have been developed to maximize results from this procedure. This review article aims to identify an updated list of instruments and combinatorial treatments available for atrophic acne scar patients undergoing subcision. We constructed a comprehensive PubMed search term and performed triple-blinded screening on all resulting studies for mentions of subcision as indicated by acne scarring. Our results show that there are four main categories of subcision tools that are commonly employed to treat atrophic acne scars: needles, cannulas, wires, and blunt-blade instruments. Usage of these devices varies by scar depth, personal preference, and combinatorial treatment options. Overall, subcision is a particularly effective treatment for atrophic acne scars, and there is vast potential for further innovation with this technique.

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Tretinoin 0.1% and benzoyl peroxide 3% cream for the treatment of facial acne vulgaris. Kontzias C, Zaino M, Feldman SR. Ann Pharmacother. 2023 Jan 13;10600280221147338. doi: 10.1177/10600280221147338. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36639853/

Objective: To assess the efficacy, safety, and clinical application of tretinoin 0.1%-benzoyl peroxide 3% cream for the topical treatment of acne vulgaris. Data sources: A systematic review of the literature was performed using the terms Twyneo OR tretinoin and benzoyl peroxide OR S6G5T-3 in MEDLINE (PubMed) and EMBASE. ClinicalTrials.gov was searched to obtain completed clinical trial results not published elsewhere. Study selection and data extraction: All human studies published in English prior to November 2022 related to pharmacology, clinical trials, safety, and efficacy were evaluated for inclusion. Data synthesis: In two 12-week, phase 3, randomized, vehicle-controlled clinical trials, tretinoin 0.1%-benzoyl peroxide 3% cream significantly reduced inflammatory and noninflammatory facial acne lesions and significantly improved Investigator Global Assessment (IGA) rating to clear or almost clear. The cream has a suitable safety profile, with application site pain and dryness as the most common adverse events. Relevance to patient care and clinical practice in comparison to existing agents: Tretinoin-BPO had similar IGA success compared to other topical retinoid and retinoid-BPO treatments for acne vulgaris. Compared to individual tretinoin and benzoyl peroxide therapy, the combination product streamlines application, which will improve medication adherence; however, the cost of tretinoin-BPO cream may be prohibitive. Conclusions: Tretinoin 0.1%-benzoyl peroxide 3% cream is safe and effective for the treatment of moderate-to-severe acne. Long-term trial data on efficacy and tolerability are not yet available.

Tretinoin review with newer formulations: Providing effective and tolerable solutions in clinical practice. Baldwin H, Noor O, Jackson J, et al. J Drugs Dermatol. 2023 Jan 1;22(1):35-40. doi: 10.36849/JDD.7146. https://pubmed.ncbi.nlm.nih.gov/36607761/

Topical tretinoin has historically been limited by poor tolerability and molecular instability. Research advances have enhanced its efficacy and tolerability, along with reducing oxidation and photodegradation. By overcoming historical limitations, tretinoin use can be extended to patient populations and clinical situations previously not suitable. This review discusses historical limitations of tretinoin, methods employed to overcome those limitations, use within clinical practice, and new formulations of tretinoin for the treatment of acne.

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