

April 2024, Issue 1

hottopics

American Acne & Rosacea Society Member Newsletter



American Acne and Rosacea Society
201 Claremont Avenue • Montclair, NJ 07042
(888) 744-DERM (3376) • info@aarsmember.org
www.acneandrosacea.org



hottopics

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

Our Leadership

Andrea Zaenglein, MD
President

James Del Rosso, DO
President-Elect

Valerie Callender, MD
Treasurer

Bethanee Schlosser, MD, PhD
Secretary

Directors

Emmy Graber, MD
Jonette Keri, MD, PhD
Jonathan Weiss, MD

J. Mark Jackson, MD
Immediate Past-President

Stacey Moore
Executive Director
info@aarsmember.org



AARS News

Thank You to Outgoing AARS President and Election Announcements	2
Derm World Spotlights AARS Secretary Valerie Callender, MD	2
Register Now for the 11th Annual AARS Scientific Symposium	3
AARS Call for Grant Applications	3

New Medical Research

Treatments for moderate-to-severe acne vulgaris	3
Micronized acellular dermal matrix combined with platelet rich plasma	4
Oral isotretinoin with desloratadine compared with oral isotretinoin alone	4
Evaluation of the effectiveness of berberis integerrima bunge root extract	5
Clinical factors influencing the effectiveness of microplasma fractional	5
Antibacterial and hemocompatibility potentials of nano-gold-cored alginate	6
Exploring a new pathophysiological association in acne vulgaris	6
Autologous nanofat injection combined with fractional co2 laser	7
Acne vulgaris and adherence to the mediterranean diet among university students ..	7
Heparinoid enhances the efficacy of a bactericidal agent	8

Clinical Reviews

Risankizumab efficacy	8
Recent advances in the treatment of acne using radiofrequency techniques	9
Rethinking hidradenitis suppurativa management	9
Scientific rationale and clinical basis for clindamycin use	9
Macrophages in acne vulgaris	10
Prevalence and clinical management of adrenal tumour-related hyperandrogenism 10	
Evaluating common ingredients contained in dietary acne supplements	10

AARS News

Thank You to Outgoing AARS President Andrea Zaenglein, MD and New Board Announcement

Dr. Andrea Zaenglein was recognized at the 17th Annual AARS Networking Reception in San Diego last month, as she concluded her term as AARS President. Incoming President Dr. Jim Del Rosso presented Dr. Zaenglein with a crystal gavel as a memento of her service to the Society.

In recognizing Dr. Zaenglein's work over the last two years, Dr. Del Rosso highlighted her efforts representing the AARS to the FDA last year, as the agency considered modifications to iPLEDGE, the isotretinoin REMS program. The FDA has ordered [modifications to iPLEDGE](#) that are in line with the recommendations of the AARS and other professional organizations. These changes are expected to reduce burdens on prescribers and patients. Reflecting on her presidency, Dr. Zaenglein indicated that her work on iPLEDGE is one of her proudest accomplishments.

Dr. Zaenglein also emphasized the work that the AARS does to “engage and mentor the young people within our departments.” She says it's important to, “encourage and promote the next generation to care for our patients with acne, rosacea, and HS.”

The AARS election has now ended and the new Board of Directors to join Dr. Del Rosso as incoming President include the following:

Jonathan Weiss, MD is President-Elect; Emmy Graber, MD is Treasurer; Valerie Callender, MD is Secretary; Directors on the Board include Christopher Bunick, MD, PhD, Patricia Farris, MD, Cheri Frey, MD, Adam Friedman, MD, Lawrence Green, MD, and Jonette Keri, MD, PhD. The administrative and related needs of the Society will continue to be fulfilled by Stacey Moore of Physician Resources, LLC who is serving as Executive Director.



Derm World Spotlights AARS Secretary Valerie Callender, MD

AARS leadership past and present was well represented from the podium at the Annual Meeting of the American Academy of Dermatology (AAD) in San Diego in March. Among those presenting was Valerie Callender, MD, who this month begins her term as Secretary of the AARS for 2024/2025. Dr. Callender and her session “Lasers and Energy Devices in the Treatment of Acne” were spotlighted in [Derm World Meeting News](#). “I, like all dermatologists, know that these conditions affect quality of life, self-esteem, and confidence,” Dr. Callender told Derm World, “so it's important that I address these concerns for my patients to make them feel good about themselves.”

Increasingly, technology has evolved to offer patients a reliable alternative or adjunct to traditional acne therapies. Device-based treatments may be of particular interest to patients concerned about side effects of drug-based treatments or for whom such treatments have failed. Newer lasers (i.e., 650 microsecond 1064nm Nd:YAG and 1726nm lasers) are safe for use in all skin tones and associated with a low risk for pigmentary alterations. Dr. Callender noted that pigmentary changes may result from acne itself, saying that about 90% of patients in her practice who have acne also have or develop post-inflammatory hyperpigmentation (PIH). “Many patients with acne are more concerned with correcting the dark spots on their skin,” she told DermWorld. “It's important to not only address what we see — acne — but also the hyperpigmentation at the same time, because it's often the primary focus for the patient.”

Read the full article to see Dr. Callender's recommendations to prevent or reduce the effects of PIH with lasers. Dr. Callender is the founder and medical director of Callender Dermatology & Cosmetic Center in Glenn Dale, MD. She previously served as Treasurer of the AARS.

Register Now for Free to Attend the 11th Annual AARS Scientific Luncheon Symposium

Learn about some of the latest important research in acne, rosacea, and HS while interacting with some of the brightest young minds in the field and AARS leadership. Plan to join us Wednesday, May 15, 2024 from 11:00 AM –1:00 PM for the 11th Annual AARS Scientific Symposium at the 81st Annual Meeting of the Society for Investigative Dermatology at the Hilton Anatole in Dallas, Texas. Chaired by Dr. Lawrence Eichenfield, this symposium will be complimentary with lunch included, however space is limited, so we encourage you to register now to reserve your spot! Check our website for more details in the future. [Register Now!](#)

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/HS 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. The deadline to submit applications is Friday, May 31, 2024. Available 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](#)

New Medical Research

Treatments for moderate-to-severe acne vulgaris: A systematic review and network meta-analysis. Harper JC, Baldwin H, Choudhury SP, et al. *J Drugs Dermatol.* 2024 Apr 1;23(4):216-226. doi: 10.36849/JDD.8148.

<https://pubmed.ncbi.nlm.nih.gov/38564399/>

Background: Multiple treatment options exist for the management of moderate-to-severe acne. However, the comparative effectiveness (efficacy/safety) of moderate-to-severe acne treatments has not been systematically examined. Methods: A systematic literature review (SLR) was conducted to identify randomized controlled trials of ≥ 4 weeks of treatment (topical, oral, physical, or combinations) for moderate-to-severe facial acne in patients aged ≥ 9 years. Efficacy outcomes included: percentage of patients achieving ≥ 2 -grade reduction from baseline and "clear" or

“almost clear” for global severity score (treatment success); absolute change in inflammatory (ILs reduction); and noninflammatory lesion counts (NILs reduction). A random-effects network meta-analysis (NMA) was conducted for the efficacy outcomes. Treatments were ranked with posterior rank plots and surface under cumulative ranking values. Results: Eighty-five studies were included in the SLR/NMA. Topical triple-agent fixed-dose combination (FDC) gel (clindamycin phosphate 1.2%/adapalene 0.15%/benzoyl peroxide 3.1%) and combinations of double-agent fixed-dose topical treatments with oral antibiotics (TOA3) consistently ranked in the top 3 treatments. Topical triple-agent FDC gel was numerically superior to TOA3 for treatment success (log-odds ratios: 1.84 [95% credible interval (CrI) 1.36 to 2.29]) and 1.69 (95% CrI: 1.01 to 2.32) vs placebo/vehicle). TOA3 was numerically superior to topical triple-agent FDC gel for reduction of ILs (mean difference: -8.21 [-10.33 to -6.13]) and -10.40 [-13.44 to -7.14] vs placebo/vehicle) and NILs (mean difference: -13.41 [-16.69 to -10.32] and -17.74 [-22.56 to -12.85] vs placebo/vehicle). Conclusions: Based on this SLR/NMA, topical triple-agent FDC gel was the most efficacious and safe treatment for moderate-to-severe acne.

[Download Reference Document](#)

Micronized acellular dermal matrix combined with platelet rich plasma in the treatment of atrophic acne scars:

A self-controlled split face study. Park S, Huang L, Ao X, et al. *J Cosmet Dermatol.* 2024 Apr 1. doi: 10.1111/jocd.16293. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/38558364/>

Background: Micronized acellular dermal matrix (mADM) can induce tissue regeneration and repair, and filling. Objectives: The efficacy and safety of (mADM) were evaluated in the treatment of atrophic acne scar. Methods: In this single-blinded, self-controlled, split-face study, 16 patients (48 scar sites) were divided into treatment group (24 scar sites) and control group (24 scar sites). One side of the affected area was treated with mADM combined with platelet rich plasma (PRP) injection as the treatment group; the other side of the affected area was treated with PRP injection as the control group. The efficacy was evaluated by the Acne scar assessment scale (ASAS) and Acne Scar Weight Rating Scale (ECCA) 3 months after treatment. Results: After 3-month treatment in 16 patients, the atrophic acne scars in both groups were all improved. The ASAS score and ECCA weight score in the treatment group was significantly lower than that in the control group (2.50 ± 0.51 vs. 3.62 ± 0.77 and 14.17 ± 10.18 vs. 31.88 ± 13.25 ; $p < 0.001$). Limitations: Short-term 3-month treatment period. Small sample size limits generalizability of results. Conclusion: The curative effect of mADM combined with PRP is significantly better than that of PRP alone.

[Download Reference Document](#)

Oral isotretinoin with desloratadine compared with oral isotretinoin alone in the treatment of moderate to severe acne: A randomized, assessor-blinded study. Hazarika N, Yadav P, Bagri M, et al. *Int J Dermatol.* 2024 Mar 28. doi: 10.1111/ijd.17129. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/38546101/>

Background: Our aim was to measure the effectiveness of oral isotretinoin with desloratadine compared with oral isotretinoin alone in treating moderate to severe acne at a tertiary care teaching hospital in North India. In this study, 90 patients with moderate to severe acne were enrolled to participate based on their fulfilling the inclusion criteria. Methods: A randomized, assessor-blinded, parallel-arm study was conducted. Randomization was done using computer-generated tables to allocate treatments in a 1:1 ratio. A low-dose oral isotretinoin at a dose of 0.3 mg/kg/day with tab desloratadine at 5 mg/day was applied to the study group and compared against the same patients going without the dosage when controls were conducted. Follow-up was at 4, 8, and 12 weeks. Results: The primary outcome was an improved global acne grading system (GAGS) score and decreased acne lesion count. Secondary outcome: patient satisfaction with treatment. The 90 participants were randomized and 15 participants dropped out of the study, leaving 75 participants for intention to treat analysis ($n = 41$, $n = 30$). At week 12, the GAGS score and acne lesion count between the study and control groups were comparable ($P > 0.05$). Pruritus reported was 9.76% in

the study versus 33.33% in the control group ($P = 0.018$). Also, 53.66% of participants reported "excellent" treatment satisfaction in the study group versus 36.67% in the control group. Conclusions: The addition of desloratadine to an isotretinoin regimen has a role in reducing disease and therapy-related pruritus in acne and leads to improved patient satisfaction.

Evaluation of the effectiveness of berberis integerrima bunge root extract combined with spearmint essential oil in the treatment of acne vulgaris: A randomized controlled clinical trial. Saeidi S, Ghanadian SM, Poostiyan N, Soltani R. *J Cosmet Dermatol*. 2024 Mar 28. doi: 10.1111/jocd.16291. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/38545754/>

Background: Acne vulgaris is one of the most common dermatological disorders. Berberis integerrima Bunge belongs to the Berberidaceae family. Several studies on different Berberis species in addition to B. integerrima have shown antimicrobial, antioxidant, and anti-inflammatory effects. Spearmint essential oil also has antioxidant, antibacterial, and anti-inflammatory activities. This study aimed to evaluate the clinical effectiveness of the topical combination of B. integerrima root extract and spearmint essential oil in the treatment of acne vulgaris. Methods: Patients with mild to moderate facial acne who met the inclusion criteria were randomly assigned to either drug (B. integerrima extract/spearmint essential oil topical solution) or control (clindamycin 1% topical solution) groups. Each group applied the solution twice a day for 4 weeks. Before and at the end of the intervention, the number of lesions and mGAGS (Modified Global Acne Grading Scale) score were recorded. Results: Thirty patients in each group of drug and control completed the study. Topical B.integerrima root extract/spearmint essential oil significantly reduced the number of lesions (27.33 ± 26.17 vs. 21.58 ± 21.10 ; $p < 0.001$) and mGAGS (18.76 ± 8.61 vs. 13.87 ± 8.14 ; $p < 0.001$) at the end of the intervention. However, there was no significant difference between the two groups regarding the number of lesions ($p = 0.906$) and mGAGS ($p = 0.882$). Conclusions: B. integerrima root extract combined with spearmint essential oil has significant anti-acne effects, comparable to topical antibiotic clindamycin. It could be considered as a potential treatment for acne vulgaris. However, more studies with larger sample sizes and longer durations are required to confirm this effect.

[Download Reference Document](#)

Clinical factors influencing the effectiveness of microplasma fractional radiofrequency treatment for atrophic acne scars: A retrospective analysis. Li J, Duan F, Kuang J, et al. *J Cosmet Dermatol*. 2024 Mar 26. doi: 10.1111/jocd.16298. Online ahead of print. <https://pubmed.ncbi.nlm.nih.gov/38532647/>

Background: Microplasma fractional radiofrequency (MP FRF) technology has been increasingly used for acne scars. Nevertheless, little evidence has analyzed the factors influencing its effectiveness before and during treatment. Aims: To evaluate the clinical factors affecting the effectiveness of MP FRF therapy for atrophic acne scars. Methods: We analyzed retrospectively the clinical data of 79 acne scar patients treated with MP FRF technology. The outcome of interest included the effectiveness and adverse events after MP FRF treatment. Multivariable logistic regression was utilized to evaluate clinical factors associated with effectiveness after the initial session. Results: All patients received 115 sessions of MP FRF therapy (average: 1.5 sessions). Twenty-eight (35.4%) patients improved moderately to excellently after one session. We found that the severe grade before treatment was negatively correlated with the effectiveness according to Goodman-Baron qualitative scores (OR = 0.02, 95% CI [0.001, 0.37], $p = 0.009$). The presence of icepick scars was also a negative correlation factor for the effectiveness (OR = 0.06, 95% CI [0.004, 1.00], $p = 0.049$). Furthermore, after excluding the effects of icepick scars and Goodman-Baron scores before treatment, ECCA scores were also correlated with effectiveness (OR = 1.04, 95% CI [1.01, 1.06], $p = 0.009$). Conclusion: MP FRF therapy was effective in treating atrophic acne scars with no permanent adverse events. The severity of Goodman-Baron qualitative scores and icepick scars were independent clinical factors affecting

effectiveness, suggesting the possible requirement for additional treatments other than MP FRF for severe acne scars and icepick scars.

[Download Reference Document](#)

Antibacterial and hemocompatibility potentials of nano-gold-cored alginate preparation against anaerobic bacteria from acne vulgaris. Abbas HA, Taha AA, Sulaiman GM, et al. *Sci Rep.* 2024 Mar 24;14(1):6984. doi: 10.1038/s41598-024-57643-5. <https://pubmed.ncbi.nlm.nih.gov/38523189/>

Acne is a prevalent dermatological disease, with high global incidence, and is a health menace. The current study aimed to isolate and characterize the anaerobic bacteria responsible for the condition. Causes of a total of 70 acne-based bacterium isolates obtained from patients of mild, moderate, and severe acne, 24 were *Clostridium innocuum*, 21 were *Lactobacillus plantarum*, 13 were *Anaerococcus prevotii*, and 12 were *Peptoniphilus asaccharolyticus*. Nearly 69% of males were suffering, while the rest were females at 31%. The 15-30 years old age group was the most affected. The gold/alginate nanoparticles' nanopreparation (GANPs) produced from chloroauric acid and sodium alginate was an effective treatment against the acne conditions under the experimental conditions. The nanopreparation exhibited significant inhibitory activity against anaerobic bacterial isolates, with a minimum inhibitory concentration of 200 µg/ml for *A. prevotii* and *P. asaccharolyticus*, and 400 µg/ml for *C. innocuum* and *L. plantarum*. The in vitro efficacy of the GANPs on human blood parameters was also assessed. The concurrent results suggested potential antibacterial activity and hemocompatibility of the product, which has promise to be used as a successful antibacterial agent for acne.

[Download Reference Document](#)

Exploring a new pathophysiological association in acne vulgaris and metabolic syndrome: The role of biogenic amines and glutathione peroxidase. Bungau AF, Tit DM, Stoicescu M, et al. *Medicina (Kaunas).* 2024 Mar 21;60(3):513. doi: 10.3390/medicina60030513. <https://pubmed.ncbi.nlm.nih.gov/38541239/>

Background and Objectives: Metabolic disorders cause many skin issues, including acne vulgaris. This research investigated the function of glutathione peroxidase (GTPx) and biogenic amines as a potential novel pathophysiological link between metabolic syndrome (MetS) and acne vulgaris. Materials and Methods: The patients were distributed into two groups: metabolic precondition (MPG, n = 78) and control (CG, n = 81). To determine the extent of acne and metabolic preconditioning, patients were subjected to extensive clinical/paraclinical investigations. Additionally, catecholamine levels in urine and GTPx levels in blood were measured. Results: Mild acne was more common in the CG (32.1 vs. 6.4, p < 0.001), and severe acne was more common in the MPG (61.54 vs. 25.9, p < 0.001), with the average age being substantially higher in the MPG (23.81 vs. 21.05, p = 0.002). Significant variations were observed in the paraclinical levels for catecholamines (p < 0.05). In the MPG, most severe acne patients were overweight (52.1%), insulin-resistant (48.8%), or obese (47.9%). Moderate acne was most often linked to obesity (56%), overweight (44%), and insulin resistance (20%). Patients with severe acne (48.83%) had a considerably greater incidence of insulin resistance syndrome (p = 0.039) than those with moderate or severe acne (20%). The presence of two or three metabolic disorders considerably raised the risk of severe acne. Significant differences between groups were observed only in the subgroup of patients with severe acne, with lower values in the MPG (p = 0.015). Significant differences between groups were observed regarding the subgroup of patients with severe acne, with lower DTPx values in the MPG. At the group level, only CG patients with severe acne had reduced GTPx levels. Significant differences in catecholamine values were seen between groups (p < 0.05), independent of acne severity, except for adrenaline in mild acne patients (p = 0.059). Conclusions: The complex connection between GTPx and catecholamines in MetS suggests a significant role of these factors in the pathogenesis of acne associated with this condition, opening new perspectives in the research and treatment of acne in the context of MetS.

[Download Reference Document](#)

Autologous nanofat injection combined with fractional CO₂ laser in the treatment of atrophic acne scars.

Rageh MA, Ibrahim SMA, Abdallah N, Tawfik AA. *Clin Cosmet Investig Dermatol*. 2024 Mar 20;17:697-705. doi: 10.2147/CCID.S454514. eCollection 2024. <https://pubmed.ncbi.nlm.nih.gov/38524394/>

Background: Atrophic acne scarring is a widely prevalent condition and one of the most distressing complications of acne vulgaris. Numerous options with variable outcomes are available for the treatment of acne scarring. Laser is considered a first-line therapy for acne scars, and recently there has been a growing interest in using stem cells and their derivatives for treating acne scars. In addition, combined therapeutic modalities often achieve more satisfactory results than a single treatment. Objective: We tried to evaluate the role of nanofat and fractional CO₂ laser as a combined treatment approach for atrophic acne scarring. Methods: Twenty-five patients with atrophic acne scarring were enrolled. They received a single session of intradermal nanofat injection, at different points 1 cm apart, for acne scars. Two weeks later, they were treated with three sessions of fractional CO₂ laser at monthly intervals. Patients were evaluated three months after the last session using the quantitative Goodman and Baron scoring system. Pain, side effects, and patients' satisfaction were also evaluated. Results: There were two males and 23 females with a mean age of 25.96 years. Their skin type ranged between Fitzpatrick skin type III, IV, and V. Boxcar scars were the most common scar type in 13 patients (52%). After treatment, there was a significant reduction ($p < 0.05$) in the quantitative Goodman and Baron scores. The improvement was more evident in rolling scars. Seven patients reported significant improvement, and 12 reported marked improvement. Conclusion: This study showed that combining nanofat and fractional CO₂ laser is a safe and effective treatment modality for atrophic acne scars.

[Download Reference Document](#)

Acne vulgaris and adherence to the mediterranean diet among university students: A case–control study.

Taha S, Shakhshir M, Zyoud SH. *J Health Popul Nutr*. 2024 Mar 13;43(1):41. doi: 10.1186/s41043-024-00535-1. <https://pubmed.ncbi.nlm.nih.gov/38481345/>

Background: Western diets, characterized by a high glycemic index and dairy content, can be risk factors for acne vulgaris. A few studies have suggested that adherence to non-Western diets, such as the Mediterranean diet (MD), may be protective against acne. This study aimed to explore the relationships between adherence to the MD and acne diagnosis and severity. Methods: This was a matched case–control study carried out among university students studying health sciences to explore the relationship between adhering to the MD and an acne diagnosis. Convenience sampling was utilized for the initial recruitment of eligible participants, who were then 1:1 individually matched for age, gender, and body mass index (BMI). Adherence to the MD was assessed using the Mediterranean Diet Adherence Screener (MEDAS) tool, and acne severity was assessed using the Global Acne Grading System (GAGS). The data were analyzed using descriptive statistics, bivariate analysis, and conditional logistic regression, which included two models based on clinical data and the backward elimination technique. Results: A final sample of 121 cases was individually matched to 121 controls. Each group consisted of 28.9% males and 71.1% females, with most having a BMI within the healthy range (71.9%). Both the case (80.2%) and control groups (77.7%) demonstrated a predominant pattern of low adherence to the MD. At the bivariate level, family history significantly differed between the case and control groups (OR = 2.01, CI = 1.17-3.44), while adherence to the MD (OR = 0.86, CI = 0.46-1.60) did not reach statistical significance. According to the regression analysis, family history remained significant in the backward elimination model (aOR = 1.94, CI = 1.14-3.34), while it disappeared in the full model (aOR = 1.95, CI = 1.14-3.34). Neither model revealed a significant association between acne and the other variables. Among the participants in the case group, neither adherence to the MD nor adherence to its components was significantly associated with acne severity, except for vegetables ($p = 0.022$). Conclusions: Adherence to the MD was not correlated with acne diagnosis or clinical severity. More research on the association between acne and adherence to the MD is needed, as earlier studies are few, were conducted in specific settings, and used variable methodologies. To improve the validity and

reliability of the research methodology, the development of detailed and culturally adapted MD definitions and practical guides is recommended.

[Download Reference Document](#)

Heparinoid enhances the efficacy of a bactericidal agent by preventing *Cutibacterium acnes* biofilm formation via quorum sensing inhibition. Hamada S, Minami S, Gomi M. *J Microorg Control*. 2024;29(1):27-31. doi: 10.4265/jmc.29.1_27. <https://pubmed.ncbi.nlm.nih.gov/38508759/>

Cutibacterium acnes is an opportunistic pathogen in acne vulgaris. *C. acnes* produces autoinducer-2 (AI-2), a signaling molecule used for communication known as quorum sensing (QS). In *C. acnes*, QS reportedly upregulates biofilm formation leading to resistance against bactericidal agents. In this study, we analyzed how heparinoid affected QS and biofilm formation of the opportunistic pathogen *C. acnes*. We also verified whether heparinoid would suppress biofilm formation and enhance the efficacy of the bactericidal agent 4-isopropyl-3-methylphenol (IPMP) against *C. acnes* biofilms. We ran an AI-2 bioassay using *Vibrio harveyi* ATCC BBA-1121. Heparinoid exhibited inhibitory activity against AI-2 at concentrations of 0.003-0.005%, suggesting an AI-2 analog-derived or *C. acnes* culture supernatant-derived inhibition of the AI-2 activity. To evaluate how heparinoid suppresses biofilm formation in *C. acnes*, we completed a biofilm assay in 96-well plates. We also evaluated the bactericidal activity of IPMP against the *C. acnes* biofilm prepared with or without heparinoid. Heparinoid inhibited *C. acnes* biofilm formation and IPMP bactericidal efficacy increased upon heparinoid-mediated suppression of biofilm formation. In this study, we clarified that heparinoid inhibits the AI-2-mediated QS of *C. acnes*, thereby suppressing biofilm formation and increasing IPMP bactericidal efficacy, potentially suppressing acne vulgaris.

Clinical Reviews

Risankizumab efficacy in Synovitis, Acne, Pustulosis, Hyperostosis, and Osteitis (SAPHO) remission: A case report on rheumatologic and dermatologic disease manifestations with literature review. Ferraioli M, Fiannacca L, Greco E, et al. *Case Reports Immunol*. 2024 Mar 19:2024:9076852. doi: 10.1155/2024/9076852. eCollection 2024. <https://pubmed.ncbi.nlm.nih.gov/38533274/>

SAPHO syndrome is a complex disease that encompasses both inflammatory arthritis and/or osteitis and dermatologic manifestations. It is considered a rare disease, in fact, no clinical trials have been conducted on its therapy and management. Therefore, therapeutic approach is based on small case studies. Here, we described the case of a 63-year-old woman affected by SAPHO syndrome, treated with the selective IL-23p19 antagonist, Risankizumab, after unsuccessful therapies with Methotrexate, Infliximab, Adalimumab, and an allergic reaction to Secukinumab. At the beginning of therapy, in November 2022, the patient presented with arthritis in both knees associated with palmar pustulosis and guttate psoriasis on the trunk. DAPSA score was 24, PtGA 80 mm, PASI score 11.1, and BSA 40%. Thereafter, Risankizumab was started at the standard dosage of 150 mg. At week 24 patient achieved clinical remission, DAPSA score was 8, PtGA was 30 mm, PASI was 1, and BSA 2.5. Patient maintained clinical remission state at the subsequent week 52 evaluation. At the same time, the patient did not report any adverse effects. Health-related quality of life was also assessed at the same time points aforementioned, showing significant improvement. In conclusion, this case report wants to point out the efficacy and safety of Risankizumab in SAPHO syndrome, reporting a sustained disease remission through a 12 months long follow-up period. We can consider IL-23p19 targeted therapy as a novel treatment option for SAPHO-with a high efficacy potential-especially on patients that have already been treated with other biologics.

[Download Reference Document](#)

Recent advances in the treatment of acne using radiofrequency techniques. Zhang X, Zhou M, Liu Y, Zeng R. *Lasers Med Sci.* 2024 Mar 19;39(1):92. doi: 10.1007/s10103-024-04039-6. <https://pubmed.ncbi.nlm.nih.gov/38499897/>

Acne is a long-lasting inflammatory skin condition that impacts the sebaceous units of the hair follicles, affecting around 85-90% of the population. Due to the potential for permanent facial scarring and negative social consequences, as well as the limitations of conventional medications like drug resistance and difficulties following treatment plans, it's crucial to investigate non-pharmacological options for treating acne, among which radiofrequency(RF) shows distinct superiority. To assess the impact of RF in the management of acne vulgaris, we conducted a thorough examination of scientific literature (including clinical trials and scientific reviews) through electronic databases like MEDLINE and PubMed. Our analysis indicates that RF could be a viable substitute for acne treatment due to its notable effectiveness and minimal adverse effects.

Rethinking hidradenitis suppurativa management: Insights into bacterial interactions and treatment evolution. Huynh FD, Damiani G, Bunick CG. *Antibiotics (Basel).* 2024 Mar 17;13(3):268. doi: 10.3390/antibiotics13030268. <https://pubmed.ncbi.nlm.nih.gov/38534703/>

Hidradenitis suppurativa (HS), or acne inversa, is a chronic inflammatory dermatological condition characterized by painful and recurrent nodules and purulent abscesses. HS can have a devastating impact on the quality of life of patients. This condition is commonly localized to the axilla, groin, perineal, and inframammary regions, and can develop fistulas and sinus tracts over time. Its pathogenesis remains elusive and is best characterized at the moment as multi-factorial. Additionally, questions remain about the role of cutaneous dysbiosis as a primary HS trigger or as a secondary perturbation due to HS inflammation. This article features works in relation to HS and its interplay with bacterial microflora. We address current treatment approaches and their impact on HS-related bacteria, as well as areas of therapeutic innovation. In the future, disease-modifying or remittive therapy will likely combine an advanced/targeted anti-inflammatory approach with one that effectively modulates cutaneous and deep tissue dysbiosis.

[Download Reference Document](#)

Scientific rationale and clinical basis for clindamycin use in the treatment of dermatologic disease. Armillei MK, Lomakin IB, Del Rosso JQ, et al. *Antibiotics (Basel).* 2024 Mar 17;13(3):270. doi: 10.3390/antibiotics13030270. <https://pubmed.ncbi.nlm.nih.gov/38534705/>

Clindamycin is a highly effective antibiotic of the lincosamide class. It has been widely used for decades to treat a range of skin and soft tissue infections in dermatology and medicine. Clindamycin is commonly prescribed for acne vulgaris, with current practice standards utilizing fixed-combination topicals containing clindamycin that prevent *Cutibacterium acnes* growth and reduce inflammation associated with acne lesion formation. Certain clinical presentations of folliculitis, rosacea, staphylococcal infections, and hidradenitis suppurativa are also responsive to clindamycin, demonstrating its suitability and versatility as a treatment option. This review describes the use of clindamycin in dermatological practice, the mechanism of protein synthesis inhibition by clindamycin at the level of the bacterial ribosome, and clindamycin's anti-inflammatory properties with a focus on its ability to ameliorate inflammation in acne. A comparison of the dermatologic indications for similarly utilized antibiotics, like the tetracycline class antibiotics, is also presented. Finally, this review addresses both the trends and mechanisms for clindamycin and antibiotic resistance, as well as the current clinical evidence in support of the continued, targeted use of clindamycin in dermatology.

[Download Reference Document](#)

Macrophages in acne vulgaris: Mediating phagocytosis, inflammation, scar formation, and therapeutic implications. Feng Y, Li J, Mo X, Ju Q. *Front Immunol*. 2024 Mar 14;15:1355455. doi: 10.3389/fimmu.2024.1355455. eCollection 2024. <https://pubmed.ncbi.nlm.nih.gov/38550588/>

Macrophages serve as a pivotal nexus in the pathogenesis of acne vulgaris, orchestrating both the elimination of *Cutibacterium acnes* (*C. acnes*) and lipid metabolic regulation while also possessing the capacity to exacerbate inflammation and induce cutaneous scarring. Additionally, recent investigations underscore the therapeutic potential inherent in macrophage modulation and challenge current anti-inflammatory strategies for acne vulgaris. This review distills contemporary advances, specifically examining the dual roles of macrophages, underlying regulatory frameworks, and emergent therapeutic avenues. Such nuanced insights hold the promise of guiding future explorations into the molecular etiology of acne and the development of more efficacious treatment modalities.

[Download Reference Document](#)

Prevalence and clinical management of adrenal tumour-related hyperandrogenism: A narrative review. Medenica S, Zivanovic D, Milardi D, et al. *Life (Basel)*. 2024 Mar 9;14(3):360. doi: 10.3390/life14030360.

<https://pubmed.ncbi.nlm.nih.gov/38541685/>

Hyperandrogenism is a condition in which the levels of androgen hormones in the blood are significantly increased and could be of an adrenal or ovarian origin. The adrenal androgens, normally secreted by the zona reticularis, are steroid hormones with weak androgen activity. The causes of hyperandrogenism are diverse and could be endogenous and exogenous. Androgen excess affecting different tissues and organs results in clinical features such as acne, hirsutism, virilization, and reproductive dysfunction such as oligomenorrhoea/amenorrhoea. Although androgen excess is rarely associated with adrenal tumours, it is important as it could be predictive of malignancy. A careful evaluation of the androgen pattern, also in patients with clear signs of hyperandrogenism, could be useful. Laboratory evaluation should focus on measuring total testosterone levels, followed by the estimation of other androgens such as dehydroepiandrosterone and androstenedione, and using visualisation procedures in the further management. The treatment of adrenal hyperandrogenism is eminently surgical, in consideration of the frequent malignant origin. The aim of this review is to elaborate and summarize the prevalence and clinical management of hyperandrogenism of an adrenal origin by describing the physiological mechanisms of adrenal androgen steroidogenesis, the clinical manifestations of hyperandrogenism with a special reference to hyperandrogenism in adrenal adenomas and carcinomas, and the diagnostic methods that will lead us to establishing the correct diagnosis and different treatment options to manage this condition according to the clinical presentation of the patient.

[Download Reference Document](#)

Evaluating common ingredients contained in dietary acne supplements: An evidence-based review. Vaidya T, Hoffman L, Chapas A. *J Clin Aesthet Dermatol*. 2024 Mar;17(3):34-41. <https://pubmed.ncbi.nlm.nih.gov/38495547/>

Objective: Acne vulgaris is a common skin condition treated with various medications targeting different aspects of its pathogenesis. Though increasing in popularity, the United States Food and Drug Administration (FDA) does not evaluate the safety or efficacy of dietary supplements marketed for the treatment of acne, calling into question the veracity of their labels. This review aimed to assess the safety and effectiveness of ingredients in popular acne supplements. Methods: A comprehensive review was conducted on 13 popular supplements marketed for acne, found through a Google search. Their ingredients, prices, ratings, and existing literature on efficacy and safety were analyzed. A literature review was performed regarding the most common ingredients contained in these supplements. Results: The most common ingredients in acne supplements were probiotics, diindolylmethane (DIM), vitamin A, vitamin B complex, and zinc. Despite the increasing popularity of dietary supplements, including those for skin health and acne, the absence of FDA regulation and evidence-based data raises concerns about their safety and efficacy.

The safety of acne supplement ingredients raises significant worries, with reported cases of thrombotic events and adverse effects, even during pregnancy. The lack of standardized labeling and clear dosing information further complicates the understanding and potential risks of these supplements. Additionally, there is a potential for interactions with other medications, yet this information is often not provided on the product labels. Limitations: A Google search was used to identify popular acne supplements. Search engine algorithms determine the ranking and presentation of results based on various factors, such as popularity, keywords, as well as user preferences and location, thus posing a potential sampling bias. Conclusion: It is crucial to exercise caution and prioritize evidence-based information when counseling patients regarding the use of acne supplements.

[Download Reference Document](#)