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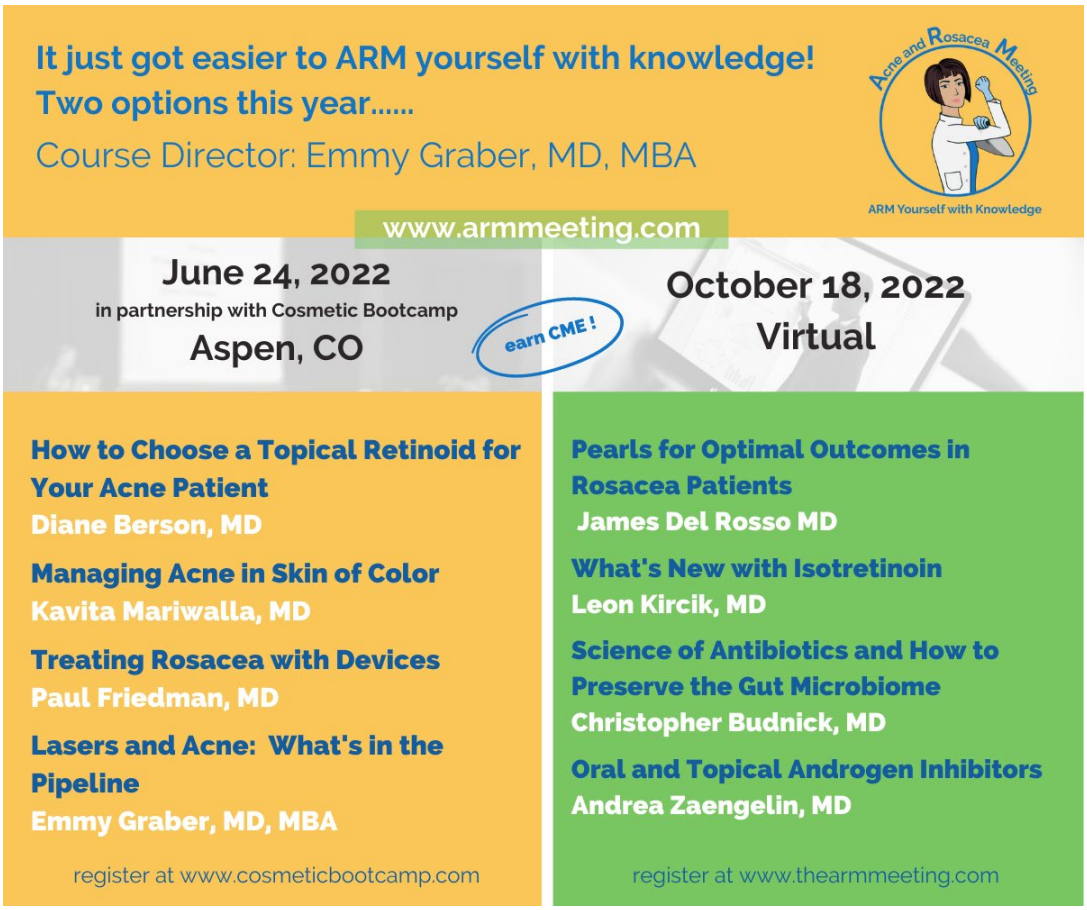
AARS News

AARS BoD Member Emmy Graber invites you to earn free CME! AARS Members are invited to attend two free CME meetings on acne, rosacea and acne scarring. For more information and to register for the in-person event in Aspen, Colorado on Friday, June 24, 2022 visit www.cosmeticbootcamp.com, registration for the symposium is part of the Cosmetic Bootcamp registration process. The Annual Virtual ARM Meeting will take place on Tuesday, October 18, 2022, please visit https://armmeeting.com/ for further information including registration.



New Medical Research

Investigation of systemic immune-inflammation index and systemic inflammation response index as an indicator of the anti-inflammatuary effect of isotretinoin in patients with acne vulgaris. Cosansu NC, Yuksekal G, Turan U, et al. Cutan Ocul Toxicol. 2022 Jun 5;1-5. doi: 10.1080/15569527.2022.2081700. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35658795/

Purpose: Oral isotretinoin (ISO) can effect markers of inflammation in patients with acne vulgaris. Systemic immune-inflammation index (SII) and systemic inflammation response index (SIRI) were described as novel inflammatory and prognostic biomarkers. The present study aimed to evaluate the effectiveness of SII, SIRI, and other inflammatory markers in patients with acne vulgaris who receive isotretinoin therapy. Methods: One hundred fifty-six patients with moderate-to-severe acne vulgaris who received at least 3 months of ISO treatment (0.5-1 mg/kg/day) and 100 healthy individuals were enrolled in the study. The medical records and laboratory findings of the participants were reviewed

retrospectively. Pre-treatment and post-treatment neutrophil, lymphocyte, monocyte, and platelet counts, neutrophil to lymphocyte ratio (NLR), platelet to lymphocyte ratio (PLR), monocyte-lymphocyte ratio (MLR), SII, SIRI, total cholesterol, LDL cholesterol, triglyceride, HDL cholesterol, aspartate aminotransferase (AST), and alanine aminotransferase (ALT) were analyzed. Results: Before ISO treatment, patients with moderate-to-severe acne vulgaris had significantly higher platelet counts than healthy controls ($p = 0.003$). Serum total cholesterol, LDL, triglyceride, AST, and ALT increased significantly after isotretinoin treatment in patients with acne vulgaris ($p < 0.001$, $p < 0.001$, $p < 0.001$, $p < 0.001$, $p = 0.029$, respectively). In the follow-up of patients using ISO, a significant increase was found in platelet levels ($p < 0.001$). However, neutrophil, NLR, SII, and SIRI were found significantly decrease after ISO treatment ($p = 0.047$, $p = 0.038$, $p = 0.003$, $p = 0.001$; respectively). Lymphocyte, monocyte, PLR, and MLR did not show any significant change after ISO treatment. Conclusion: SII and SIRI are better parameters as an indicator of the anti-inflammatory effect of isotretinoin than other inflammatory markers.

Tazarotene 0.045% lotion for females with acne: Analysis of two adult age groups. Stein Gold L, Kircik L, Baldwin H, et al. J Drugs Dermatol. 2022 Jun 1;21(6):587-595. doi: 10.36849/JDD.6876. https://pubmed.ncbi.nlm.nih.gov/35674760/

Background: Females aged ≥25 years may have acne with different etiology, presentation, burden, and treatment response than females 18-24 years. This post hoc analysis investigated efficacy and safety of tazarotene 0.045% lotion in females ≥18 years or ≥25 years of age. Methods: In two phase 3 double-blind studies, participants 9 years of age and older with moderate-to-severe acne were randomized (1:1) to once-daily tazarotene 0.045% lotion or vehicle lotion for 12 weeks. Pooled data were analyzed for females aged ≥18 years (n=744) or ≥25 years (n=335). Assessments included inflammatory/noninflammatory lesion counts, treatment success (≥2-grade reduction from baseline in Evaluator's Global Severity Score and score of 0 [clear] or 1 [almost clear]), Acne-Specific Quality of Life (Acne-QoL) questionnaire, treatment-emergent adverse events (TEAEs) and cutaneous safety/tolerability. Results: At week 12, tazarotene-treated females in both age groups had greater reductions from baseline versus vehicle in inflammatory ≥18 years: 60.6% vs 53.7% [P<0.01≥25 years: 60.9% vs 57.3% [P>0.05]) and noninflammatory lesions (59.0% vs 48.4% and 61.1% vs 48.8%; P<0.01, both). Rates of treatment success were greater with tazarotene versus vehicle; this difference was significant for females ≥18 years. Acne-QoL improvements were similar across age groups and generally greater with tazarotene than vehicle. TEAEs were mostly mild to moderate in severity. No age-related trends for safety or tolerability were observed. Conclusions: Tazarotene 0.045% lotion demonstrated comparable efficacy, improvement in quality of life, and safety in adult females aged ≥18 or ≥25 years with moderate-to-severe acne. This cosmetically elegant lotion is a well-studied and important treatment option for all patients, particularly adult females.

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The many faces of pediatric acne: How to tailor nonprescription acne treatment and skincare using cleansers and moisturizers. Schachner L, Andriessen A, Benjamin L, et al. J Drugs Dermatol. 2022 Jun 1;21(6):602-612. doi: 10.36849/JDD.6872. https://pubmed.ncbi.nlm.nih.gov/35674768/

Background: Acne vulgaris (acne) is a common, complex, multifactorial disorder. Various expressions of acne in childhood can be categorized by age, severity, and pubertal status. Objective: To improve pediatric acne patients' outcomes, various expressions of pediatric acne to educate and tailor nonprescription acne treatment and skincare using cleansers and moisturizers were defined and discussed. Methods: An expert panel of pediatric dermatologists and dermatologists reviewed and discussed nonprescription acne treatment and skincare literature. The results from the literature searches were used together with the panel's expert opinion and experience to adopt various expressions of pediatric acne and prevention, treatment, and maintenance of the condition using nonprescription acne

treatment and skincare. Results: The panel agreed on sixteen acne patient profiles addressing various age categories of pediatric acne: neonatal acne: birth to ≤8 weeks; infantile acne: 8 weeks to ≤1 year; mid-childhood acne: 1 year to <7 years; preadolescent acne: ≥7 to 12 years; adolescent acne: ≥12 to 19 years or after menarche for girls. Nonprescription acne treatment and skincare products containing lipids such as ceramides play an important role in monotherapy, adjunctive, and maintenance treatment; however, their role in pediatric acne is not well defined and requires more studies. Conclusion: Pediatric acne deserves more attention from healthcare providers treating children regarding differential diagnosis, treatment, and maintenance using nonprescription acne treatment and skincare.
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A novel technique in reducing sebum production and improving atrophic acne scars. Sirithanabadeekul P, Leetrakulwanna V, Suwanchinda A. J Cosmet Dermatol. 2022 Jun 1. doi: 10.1111/jocd.15137. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35642576/
Objective: Fractional microneedling radiofrequency (FMR) has gained popularity for the treatment of acne scars, owing to favorable outcomes and short downtimes. This study aimed to investigate FMR use in reducing facial sebum production and treating acne scars. Materials and methods: This single-center, prospective, evaluator-blinded trial compared sebum production after three sessions of FMR (Fractora® 24-pin coated tip) performed one-month apart. Results were evaluated with a sebumeter (Cutometer®, Germany), sebaceous gland histology, and subjects' assessment. Acne scars were graded according to the Echelle d'Evaluation clinique des Cicatrices d'acné scale, Goodman and Baron's qualitative grading system, acne scar volume measurement, and subjects' assessments. Results: Sebumeter results revealed a significantly decreased ($P < 0.05$) sebum production since the first treatment, sustained throughout the study period. Histological assessment showed decreased density and size of sebaceous glands. The mean acne scar volume decreased significantly, without a significant increase in the mean melanin levels. Conclusion: Fractora® 24-pin coated tip can be used as an alternative for patients with acne scars, who wish to concomitantly reduce their facial oiliness. A significant decrease in facial oiliness and acne scars' volume can be seen after a single treatment session, with up to 15.48% decrease in facial oil production.

Advances in topical management of adolescent facial and truncal acne: A phase 3 pooled analysis of safety and efficacy of trifarotene 0.005% cream. Eichenfield L, Kwong P, Lee S, et al. J Drugs Dermatol. 2022 Jun 1;21(6):582-586. doi: 10.36849/JDD.6778. https://pubmed.ncbi.nlm.nih.gov/35674762/
Purpose: Acne vulgaris is very common among adolescents and young adults. It is important for clinicians who provide care to these patients to have a plan of action for assessing and managing acne in daily practice. Methods: Post-hoc analysis of two large-scale phase 3 pivotal trials of trifarotene 0.005% cream, focusing on efficacy, safety, and tolerability in the subgroup of subjects aged 12 to 17, inclusive. Results: Trifarotene was effective and well tolerated on both the face and trunk in patients ages 12-17 with moderate acne. There was a low and acceptable rate of adverse events and tolerability was favorable. Conclusions: Trifarotene monotherapy was associated with good clinical efficacy, safety, and tolerability. Once-daily application offers convenience for patients, and the low concentration of trifarotene makes it well-suited to use on large skin areas such as the trunk.
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Thermosensitive gel based on cellulose derivative for topical delivery of propolis in acne treatment. Borghi-Pangoni FB, Bassi da Silva J, Dos Santos RS, et al. Pharm Dev Technol. 2022 May 29;1-12. doi: 10.1080/10837450.2022.2080221. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35587564/
Thermosensitive bioadhesive formulations can display increased retention time, skin permeation, and improve the topical therapy of many drugs. Acne is an inflammatory process triggered by several factors like the proliferation of

the bacteria Propionibacterium acnes. Aiming for a new alternative treatment with a natural source, propolis displays great potential due to its antibiotic, anti-inflammatory, and healing properties. This study describes the development of bioadhesive thermoresponsive platform with cellulose derivatives and poloxamer 407 for propolis skin delivery. Propolis ethanolic extract (PES) was added to the formulations with sodium carboxymethylcellulose (CMC) or hydroxypropyl methylcellulose (HPMC) and poloxamer 407 (Polox). The formulations were characterized as rheology, bioadhesion, and mechanical analysis. The selected formulations were investigated as in vitro propolis release, cytotoxicity, ex vivo skin permeation by Fourier Transform Infrared Photoacoustic Spectroscopy, and the activity against P. acnes. Formulations showed suitable sol-gel transition temperature, shear-thinning behavior, and texture profile. CMC presence decreased the cohesiveness and adhesiveness of formulations. Polox/HPMC/PES system displayed less cytotoxicity, modified propolis release governed by anomalous transport, skin permeation, and activity against P. acnes. These results indicate important advantages in the topical treatment of acne and suggest a potential formulation for clinical evaluation.

Skin fractional scar treatment with a new carbon dioxide scanner: Histological and clinical evaluation. Scarcella G, Pieri L, Fusco I. Photobiomodul Photomed Laser Surg. 2022 May 24. doi: 10.1089/photob.2021.0165. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35612472/

Background: The mechanism of action of fractional carbon dioxide (CO2) laser in the management of skin scarring is stimulation of collagen and fibroblasts in the dermis, resulting in remodeling and shrinking of the skin. Objective: The purpose of this research is to assess the safety and performance of a new CO2 laser scanner for treatment of acne scars. Methods: The study was carried out on 20 patients of both sexes, with a mean age of 25.7 ± 6.7 years. To assess the performance and safety of this new CO2 scanner, a preclinical histological evaluation was done. A clinical evaluation of acne scars was performed using Goodman and Baron's quantitative global acne scarring grading system (GBQGASGS) and a crusting scale where crusting scores ranged from 1 = none to 4 = severe. Digital photographs were taken to obtain esthetic results. Results: GBQGASGS showed a significant improvement in patients' scars and the treatment was well tolerated, with no lasting side effects. Conclusions: The new scanner seems to be an effective and safe device for skin scarring treatment, speeding up the healing time of scars.

Exploring the clinical efficacy of a self-made acne prescription based on high-throughput sequencing. Wang L, Wu J, Zhang X, et al. J Cosmet Dermatol. 2022 May 23. doi: 10.1111/jocd.15107. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35604179/

Background: We used high-throughput sequencing on skin microbial flora to assess the effectiveness of an acne prescription to formulate evidence for clinical decision-making. Methods: We randomized 20 outpatients into two groups. The treatment group was given the acne formula orally. The control group took capsules of the Chinese patent medicine Qingre Anchuang. Both groups used a chloramphenicol tincture externally. After 14 days of treatment, we collected their skin samples and extracted the deoxyribonucleic acid for analysis. Results: Forty samples were sequenced in this experiment, and of these, 1865 operational taxonomic units were obtained, belonging to 736 genera and 853 strains of 34 phyla. By alpha and beta diversity analysis, the abundance of microbial species in both the experimental and control groups before treatment was higher than after treatment, indicating the intervention drugs in this experiment had a bacteriostatic effect. Through the analysis of variance, we found that Subdoligranulum, Bifidobacterium, Bacteroides, and Akkermansia displayed large changes during the treatment. According to the linear discriminant analysis effect size, we discovered the bacteria groups with the greatest changes in the control group after treatment were Firmicutes, Clostridia, Proteobacteria, and Gammaproteobacteria. The flora of the experimental group before and after treatment were Corynebacteriaceae, Corynebacteriales, Cutibacterium, Propionibacteriales, Propionibacteriaceae, and Actinobacteria. Conclusion: The acne prescription had a reliable intervention effect on

some epidermal microbial flora of patients with acne vulgaris and could inhibit the growth of acne-related microbial flora, such as Propionibacterium.

Holistic health record for hidradenitis suppurativa patients. Tricarico PM, Moltrasio C, Gradišek A, et al. Sci Rep. 2022 May 19;12(1):8415. doi: 10.1038/s41598-022-11910-5. https://pubmed.ncbi.nlm.nih.gov/35589750/
Hidradenitis suppurativa (HS) is a recurrent inflammatory skin disease with a complex etiopathogenesis whose treatment poses a challenge in the clinical practice. Here, we present a novel integrated pipeline produced by the European consortium BATMAN (Biomolecular Analysis for Tailored Medicine in Acne iNversa) aimed at investigating the molecular pathways involved in HS by developing new diagnosis algorithms and building cellular models to pave the way for personalized treatments. The objectives of our European Consortium are the following: (1) identify genetic variants and alterations in biological pathways associated with HS susceptibility, severity and response to treatment; (2) design in vitro two-dimensional epithelial cell and tri-dimensional skin models to unravel the HS molecular mechanisms; and (3) produce holistic health records HHR to complement medical observations by developing a smartphone application to monitor patients remotely. Dermatologists, geneticists, immunologists, molecular cell biologists, and computer science experts constitute the BATMAN consortium. Using a highly integrated approach, the BATMAN international team will identify novel biomarkers for HS diagnosis and generate new biological and technological tools to be used by the clinical community to assess HS severity, choose the most suitable therapy and follow the outcome.
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A new topical candidate in acne treatment: Characterization of the meclozine hydrochloride as an anti-inflammatory compound from in vitro to a preliminary clinical study. Grange PA, Ollagnier G, Beauvais Remigereau L, et al. Biomedicines. 2022 Apr 19;10(5):931. doi: 10.3390/biomedicines10050931. https://pubmed.ncbi.nlm.nih.gov/35625668/
Acne is a chronic inflammatory multifactorial disease involving the anaerobic bacterium Cutibacterium acnes (C. acnes). Current acne treatments are associated with adverse effects, limiting treatment compliance and use. We showed that meclozine, an anti-histaminic H1 compound, has anti-inflammatory properties. In Vitro, meclozine reduced the production of CXCL8/IL-8 and IL-1β mRNA and protein by C. acnes-stimulated human keratinocytes and monocytes. No cell toxicity was observed at the IC50. Meclozine prevented the phosphorylation of ERK and JNK. In Vivo, 1% meclozine gel significantly decreased C. acnes-mouse ear induced inflammation by 26.7% (p = 0.021). Ex vivo experiments on human skin explants showed that meclozine decreased the production of GM-CSF, IL-1β and TNF-α at transcriptional and translational levels. In a randomized, double-blind, placebo-controlled proof-of-concept clinical trial on 60 volunteers, 2% meclozine pharmaceutical gel decreased by 20.1% (p < 0.001) the ASI score in the treated group after 12 weeks of treatment. No adverse event was reported. Together, these results indicate that meclozine is a potent topical anti-inflammatory compound of potential value for acne treatment.
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Clinical Reviews

Oral vitamin A for acne management: A possible substitute for isotretinoin. Cook M, Perche P, Feldman S. J Drugs Dermatol. 2022 Jun 1;21(6):683-686. doi: 10.36849/JDD.6781. https://pubmed.ncbi.nlm.nih.gov/35674761/
Background: Recent changes to the iPLEDGE platform left providers without the ability to prescribe isotretinoin to their patients. A potential substitute for isotretinoin could be beneficial when the drug is unavailable. Prior to the FDA approval of isotretinoin, a vitamin A derivative, vitamin A was studied for its use in acne management. Objective: To

review the potential of vitamin A to serve as a substitute for isotretinoin when the latter drug is inaccessible. Methods: We conducted a review of published literature from 1931 to 2021, regarding the use of vitamin A in acne treatment, using PubMed and Google Scholar databases. Nine studies were selected after reviewing articles for relevancy to our topic. Results: Eight out of the 9 studies noted improvement in patients' acne with vitamin A use. Ranges of doses used were 36,000 I/U daily to 500,000 I/U daily, with 100,000 I/U daily being the most common. Side effects were mainly mucocutaneous in nature. Limitations: Many of the trials included in our review were published over 50 years prior and lack standardized components of clinical trials today. Conclusion: Oral vitamin A could potentially serve as a substitute for isotretinoin in acne management for select patients. However, due to its teratogenicity, potential for toxicity, and long half-life, strict monitoring under the care of a medical provider is prudent. Since vitamin A is available without a prescription, strict monitoring cannot be assured, and especially careful patient selection and education would be essential.

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Improving rosacea outcomes in skin of color patients: A review on the nuances in the treatment and the use of cleansers and moisturizers. Alexis A, Woolery-Lloyd H, Andriessen A, et al. J Drugs Dermatol. 2022 Jun 1;21(6):574-580. doi: 10.36849/JDD.6838. https://pubmed.ncbi.nlm.nih.gov/35674765/

Background: While rosacea is a common inflammatory condition that affects diverse populations, published data in skin of color (SOC) are limited. This review explored nuances in clinical presentation and treatment considerations in SOC patients with rosacea and the role of cleansers and moisturizers in the management of rosacea in these populations. Methods: A panel reviewed and discussed aspects of rosacea in SOC and possible implications for treatment and maintenance. The outcome of these discussions, coupled with the panel's expert opinion and experience was used to define draft statements. After group discussions and an online review process, the panel agreed on the inclusion and wording of five statements. Results: Studies and anecdotal clinical experience suggest that rosacea is more common in SOC populations than previously reported. The clinical presentation of rosacea across diverse skin types includes the spectrum of clinical subtypes observed in other populations; however, clinical features may be less conspicuous in individuals with higher skin phototypes and the index of suspicion may be lower in SOC populations. To avoid underdiagnosis, dermatologists should consider rosacea in the differential diagnosis of any patient presenting with a history of skin sensitivity, central facial erythema, papules, and pustules. The compromised barrier in rosacea contributes to skin sensitivity. Studies including Chinese rosacea patients showed that using a moisturizer and sunscreen negatively correlated with rosacea development. Conclusions: The use of skincare could improve rosacea symptomatology. These products are recommended before and during prescription therapy and as part of a maintenance regimen as adjuncts.

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Never give up! Continued progress in development of topical therapies for acne is a good thing. Del Rosso J. J Drugs Dermatol. 2022 Jun 1;21(6):571-572. doi: 10.36849/JDD.6834. https://pubmed.ncbi.nlm.nih.gov/35674766/

In July 2022, I will reach the milestone of practicing dermatology for 36 years, with 30 years of experience also devoted to clinical research. My background in pharmacy before attending medical school set the stage for my strong interest in therapeutics with regular participation in educational initiatives at many meetings and in multiple peer-reviewed publications addressing several therapeutic areas. Ultimately, my primary interest is to translate important advances in our understanding of common chronic skin diseases and/or their management to dermatology clinicians who practice day-to-day in the trenches.

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Hormonal therapies in the management of acne vulgaris. Dash G, Patil A, Kroumpouzos G, et al. J Drugs Dermatol. 2022 Jun 1;21(6):618-623. doi: 10.36849/JDD.6494. https://pubmed.ncbi.nlm.nih.gov/35674767/
Acne vulgaris is a multifactorial chronic disorder of the pilosebaceous unit. Established treatments include topical retinoids, antibiotics in mild cases, and oral antibiotics and isotretinoin in moderate to severe cases. Anti-androgens and other hormonal therapies constitute another group of drugs in the armamentarium of acne management. These can be used in patients who do not respond to the aforementioned treatments or when other systemic drugs cannot be tolerated. Recent approval of topical androgen receptor blocker is an additional armamentarium for the management of acne. Considering limited systemic exposure and good efficacy, it has potential for wide usage in patients with acne. In this article, we critically review currently available hormonal treatment options based on published literature search of an electronic database (MEDLINE/PubMed) performed through June 2021.
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A mini-review on solid lipid nanoparticles and nanostructured lipid carriers: Topical delivery of phytochemicals for the treatment of acne vulgaris. Chutoprapat R, Kopongpanich P, Chan LW. Molecules. 2022 May 27;27(11):3460. doi: 10.3390/molecules27113460. https://pubmed.ncbi.nlm.nih.gov/35684396/
Acne vulgaris (acne) is one of the most common dermatological problems affecting adolescents and young adults. Although acne may not lead to serious medical complications, its psychosocial effects are tremendous and scientifically proven. The first-line treatment for acne is topical medications composed of synthetic compounds, which usually cause skin irritation, dryness and itch. Therefore, naturally occurring constituents from plants (phytochemicals), which are generally regarded as safe, have received much attention as an alternative source of treatment. However, the degradation of phytochemicals under high temperature, light and oxygen, and their poor penetration across the skin barrier limit their application in dermatology. Encapsulation in lipid nanoparticles is one of the strategies commonly used to deliver drugs and phytochemicals because it allows appropriate concentrations of these substances to be delivered to the site of action with minimal side effects. Solid lipid nanoparticles (SLNs) and nanostructured lipid carriers (NLCs) are promising delivery systems developed from the combination of lipid and emulsifier. They have numerous advantages that include biocompatibility and biodegradability of lipid materials, enhancement of drug solubility and stability, ease of modulation of drug release, ease of scale-up, feasibility of incorporation of both hydrophilic and lipophilic drugs and occlusive moisturization, which make them very attractive carriers for delivery of bioactive compounds for treating skin ailments such as acne. In this review, the concepts of SLNs and NLCs, methods of preparation, characterization, and their application in the encapsulation of anti-acne phytochemicals will be discussed.
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Insights of lipid vesicular and particulate carrier mediated approach for acne management. Dudhat S, Singh P, Pimple P. Curr Drug Deliv. 2022 May 24. doi: 10.2174/1567201819666220524154448. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35611775/
Acne vulgaris is a universal multifactorial human skin condition of the pilosebaceous units. Although acne majorly prevails in teenagers, it is neither restricted to age group nor gender. Multifarious causative factors like Propionibacterium acnes, dysregulated sebum secretion, and androgens play an integral role in manifestation of acne. Though abundant new chemical entities convenient for acne therapy but none can treat this condition without compromising patient compliance. Furthermore, accessible treatment prevents the ailment and alleviate the sign and symptoms with no absolute cure. So presently, despite the variety of topical formulations, the current market demands an ideal remedy to fulfil unmet need of acne management. Extensive research has proved an upper hand of novel carrier systems over conventional formulations by substantially improving efficacy and eliminating unpleasant side

effects. Lipid based vesicular and particulate systems are promising prospects due to their closeness to the intrinsic structure of the skin which offer delivery of the actives in a more desirable approach. This review underlines the practicability and superiority of liposomes, niosomes, transfersomes, ethosomes, cubosomes, solid lipid nanoparticles, and nanostructured lipid carriers over conventional therapies for acne. The review also highlights acne product market survey and available conventional as well as novel formulations portraying their scope in the market. In a nutshell, lipid based vesicular and particulate systems prevail as a propitious modality for treating acne vulgaris as they conduce better penetrability, localized action, and reduce adverse effects. These systems have the ability of opening a window of opportunities for effective acne alleviation.

New treatments and new assessment instruments for hidradenitis suppurativa. van Straalen KR, Ingram JR, Augustin M, Zouboulis CC. Exp Dermatol. 2022 May 18. doi: 10.1111/exd.14609. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/35582833/

Research interest in Hidradenitis Suppurativa (HS) has grown exponentially over the past decades. Several groups have worked to develop novel scores that address the drawbacks of existing investigator assessed and patient reported outcome measures currently used in HS trials, clinical practice and research. In clinical trial settings, the drawbacks of the HiSCR have become apparent; mainly it's lack of a dynamic measurement of draining tunnels. The newly developed (dichotomous) IHS4 and HASI-R are backed up by adequate validation data and are good contenders to become the new primary outcome measure in HS clinical trials. Patient reported outcomes, as well as physician reported measures, are being developed by the HIdradenitis SuppuraTiva cORe outcomes set International Collaboration (HISTORIC). For example, the Hidradenitis Suppurativa Quality of Life (HiSQOL) score is a validated measure of HS-specific quality of life and is already being used in many HS trials. Magnitude of pain measurement via a 0-10 numerical rating scale is well-established, however consensus is still required to ensure consistent administration and interpretation of the instrument. A longitudinal measurement over multiple days rather than at one time point, such as for example the Pain Index could provide increased reliability and reduced recall bias. Ultimately, these newly developed scores and tools can be included in a standardized registry to be used in routine clinical practice.

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Methods for the improvement of acne scars used in dermatology and cosmetology: A review. Chilicka K, Rusztowicz M, Szyguła R, Nowicka D. J Clin Med. 2022 May 12;11(10):2744. doi: 10.3390/jcm11102744. https://pubmed.ncbi.nlm.nih.gov/35628870/

Acne vulgaris is a chronic skin disease that, depending on its course, is characterized by the occurrence of various skin eruptions such as open and closed comedones, pustules, papules, and cysts. Incorrectly selected treatment or the presence of severe acne vulgaris can lead to the formation of atrophic scars. In this review, we summarize current knowledge on acne scars and methods for their improvement. There are three types of atrophic scars: icepick, rolling, and boxcar. They are of different depths and widths and have different cross-sections. Scars can combine to form clusters. If acne scars are located on the face, they can reduce the patient's quality of life, leading to isolation and depression. There are multiple effective modalities to treat acne scars. Ablative lasers, radiofrequency, micro-needling, and pilings with trichloroacetic acid have very good treatment results. Contemporary dermatology and cosmetology use treatments that cause minimal side effects, so the patient can return to daily functioning shortly after treatment. Proper dermatological treatment and skincare, as well as the rapid implementation of cosmetological treatments, will certainly achieve satisfactory results in reducing atrophic scars.

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Enhancing topical pharmacotherapy for acne and rosacea: Vehicle choices and outcomes. Green LJ, Lain E, Prunty T, Rhoades R. J Clin Aesthet Dermatol. 2022 May;15(5):36-40. https://pubmed.ncbi.nlm.nih.gov/35642224/
The choice of vehicle is an important consideration in the treatment of acne and rosacea. Agents used to treat these common conditions may be limited by multiple factors, including poor stability during storage, limited residence time in the skin and follicular unit, and high potential for skin irritation. Novel drug delivery systems have been developed to address these problems, including microencapsulation, liposomal encapsulation, and the use of a variety of nanocarriers. New vehicle technologies for acne and rosacea treatments have appeared over the past 20 years and have somewhat improved stability, tolerability, and possibly efficacy. One of the latest vehicle technologies in acne and rosacea to enhance efficacy, stability, and tolerability is microencapsulation of benzoyl peroxide and tretinoin, which resulted in significant efficacy and good tolerability in patients with each of these two diseases. Other new vehicle technologies include a polymeric form of tretinoin and a microsphere product that combines tretinoin plus clindamycin. It is likely that there will be more reports of clinical success as experience with the rapidly evolving delivery technologies increases. This review summarizes drug delivery systems that have been developed with the aim of improving outcomes for patients being treated for either acne or rosacea. It also focuses, where possible, on formulations that have been evaluated in clinical studies.
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