
# AARS HOT TOPICS MEMBER NEWSLETTER

## August 15, 2019 Issue

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## Industry News

**Private equity-backed groups acquiring more dermatology practices.** Tan S, et al. JAMA Dermatol. 2019;doi:10.1001/jamadermatol.2019.1634. Healio Dermatology. Abigail Sutton. August 12, 2019 https://www.healio.com/dermatology/practice-management/news/online/%7Ba043ff4b-3ba0-49fe-81ee-7fb24328fa82%7D/private-equity-backed-groups-acquiring-more-dermatology-practices?utm_source=selligent&utm_medium=email&utm_campaign=dermatology%20news&m_bt=2310922136842

One hundred eighty-four dermatology practices were acquired by private equity-backed groups from 2012 to 2018, with more acquisitions occurring over time and broadening in geographic reach. "The results suggest that PE-backed dermatology practice consolidation is increasing, which is consistent with data reporting that fewer dermatologists are working in solo practice than they were a decade ago," Sally Tan, MD, MPH, of the department of dermatology at Brigham and Women's Hospital in Boston, and colleagues wrote. The researchers identified private equity (PE)-backed transactions through a search of five financial databases: Capital IQ, CB Insights, Zephyr, Thomson ONE and PitchBook. PitchBook was used to identify PE-backed financing rounds into dermatology management groups (DMGs). A DMG is a physician practice management company that operates several dermatology clinics and strives to acquire and open new clinics, according to researchers. From 2012 to 2017 the number of practices acquired by PE-backed DMGs increased each year, with five acquisitions in 2012, seven in 2013, 13 in 2014, 26 in 2015, 40 in 2016 and 59 in 2017. From January to May 2018, 34 practices were acquired. Seventeen PE-backed DMGs participated in the acquisitions and listed on their websites as owning an estimated 743 dermatology clinics by mid-2018. The researchers noted a regional focus, with 36% of the acquired practices in Florida and Texas; acquisitions occurred in 30 states. Between 2012 and 2017, the number of practices acquired increased by a mean of 65% each year. "Large group practices may also negotiate more favorable reimbursement contracts with payers; alternatively, practices may offer below-market rates in exchange for relative exclusivity of a managed care patient population," the researchers wrote. Physicians have voiced concerns about the loss of physician autonomy and conflicts of interest related to the acquisitions, according to the report. In addition, the effect of consolidation on clinical outcomes and health care expenditures has not been addressed. "Further research is needed to assess whether and how PE-backed ownership influences clinical decision-making, health care expenditures and patient outcomes," the researchers wrote.

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**FDA accepts NDA for tazarotene lotion for acne.** Healio Dermatology. August 8, 2019. https://www.healio.com/dermatology/acne/news/online/%7Be8a679d9-82e1-4c3b-a84f-bffbf0ae3f02%7D/fda-accepts-nda-for-tazarotene-lotion-for-acne?utm_source=selligent&utm_medium=email&utm_campaign=dermatology%20news&m_bt=2310922136842

The FDA has accepted a new drug application for IDP-123, a lotion for the treatment of acne, according to an announcement from Bausch Health and Ortho Dermatologics, Bausch's dermatology business. The NDA for IDP-123 (tazarotene 0.045%) includes data from two phase 3 randomized, placebo-controlled, double-blind clinical trials of 1,614 patients with moderate to severe acne. All primary endpoints were met with statistical significance, including an absolute change in the mean noninflammatory and inflammatory lesion counts and the percentage of subjects who

had a least a two-grade improvement from baseline to week 12 in the Evaluator Global Severity Score and who had "clear" or "almost clear" skin, according to a press release. In addition, the lotion was well tolerated by patients. The PDUFA action date is Dec. 22, and if approved, IDP-123 will be the first tazarotene acne treatment available in lotion form, the release said.

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**Ortho Dermatologics announces U.S. FDA filing acceptance for IDP-123 treatment for acne vulgaris in lotion form.** Ortho Dermatologics. Press Room. August 7, 2019. https://ortho-dermatologics.com/about-us/press-room/

Ortho Dermatologics, one of the largest prescription dermatology health care businesses in the world, today announced that the U.S. Food and Drug Administration (FDA) has accepted the New Drug Application (NDA) for IDP-123 (tazarotene 0.045%) Lotion with a PDUFA action date of Dec. 22, 2019. If approved, IDP-123 will be the first tazarotene acne treatment available in a lotion form. "Millions of Americans are affected by acne and, for many of these patients, it can be difficult to find a treatment that works for them," said Bill Humphries, president, Ortho Dermatologics. "If approved, IDP-123 will offer physicians and their patients a lower concentration of tazarotene in a lotion formulation, helping to further expand upon our growing portfolio of acne treatments."

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**Foamix submits new drug application to U.S. FDA for FMX103 for the treatment of moderate-to-severe papulopustular rosacea.** Foamix Pharmaceuticals. August 5, 2019. https://www.foamix.com/news-releases/news-release-details/foamix-submits-new-drug-application-us-fda-fmx103-treatment

Foamix Pharmaceuticals Ltd. (Nasdaq: FOMX), a clinical stage specialty pharmaceutical company focused on developing and commercializing proprietary topical therapies to address unmet needs in dermatology, today announced that it has submitted a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) seeking approval for FMX103 for the treatment of moderate-to-severe papulopustular rosacea in patients 18 years of age and older. Rosacea is a common skin condition that causes redness and visible blood vessels in the face. It may also produce small, red, pus-filled bumps. These signs and symptoms may flare up for a period of weeks to months and then diminish for a while. Rosacea can be mistaken for acne, an allergic reaction or other skin problems. There are approximately 16 million U.S. rosacea sufferers (source: Aimee Two, MD, et al, JAAD, Volume 72, Issue 5, May 2015), a large percentage of whom (85% 30 years of age and older) suffer multiple comorbidities and experience sensitivity to current treatment options. "It can be challenging for patients with papulopustular rosacea to find therapies that provide meaningful symptom relief and are also well tolerated when applied to their skin," said David Domzalski, Chief Executive Officer. "Building on the impressive Phase 3 FMX103 topline results announced in November last year, we are excited to have reached this NDA submission milestone earlier than previously anticipated." The NDA submission is supported by the previously communicated results from two Phase 3 clinical trials, FX2016-11 and FX2016-12. In these trials, FMX103 achieved both co-primary endpoints, demonstrating statistically significant improvements in inflammatory lesion count and Investigator Global Assessment (IGA) treatment success. In both trials, and in the long-term safety extension study FX2016-13, the safety profile of FMX103 was shown to be generally favorable and consistent throughout the clinical development program. The NDA submission also incorporates information on chemistry manufacturing and controls, and data from non-clinical toxicology studies. "Our goal with developing FMX103 is to provide patients with an efficacious and well-tolerated treatment in a convenient topical foam formulation," stated Iain A. Stuart, Ph.D., Chief Scientific Officer. "This

submission for FMX103, which is the second NDA submitted by Foamix within the past 8 months, underscores both the potential of our late stage portfolio in dermatology as well as the strong execution capabilities of our R&D and regulatory teams."

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**Ortho Dermatologics announces cash-pay prescription program, dermatology.com, to be available at Walgreens stores nationwide.** Ortho Dermatologics. Press Room. August 1, 2019. https://ortho-dermatologics.com/about-us/press-room/

Ortho Dermatologics, one of the largest prescription dermatology health care businesses, today announced that its parent company, Bausch Health Companies Inc. (NYSE/TSX: BHC) ("Bausch Health"), and Walgreens have made a modification to their existing fulfillment agreement to bring patients lower prices, increased transparency and convenience for many of Ortho Dermatologics' dermatology products. Under the expanded agreement, Walgreens patients will have access to the select dermatology products included in Ortho Dermatologics' first-of-its-kind cash-pay prescription program, Dermatology.com, at lower flat cash rates ranging from $50-$115. The program, which was first launched in March 2019, will be available at more than 9,500 Walgreens U.S. retail pharmacy locations by the end of August 2019. "We launched Dermatology.com to provide patients with direct access to proven, branded dermatology medicines at predictable prices," said Bill Humphries, president, Ortho Dermatologics. "Through this new expanded relationship with Walgreens, patients using the program will now have a nationwide pharmacy option that is not only welcoming and accessible, but will provide them with the confidence that the cost they discuss with their physician will be what they pay at the pharmacy. Together, we will continue to strive to deliver on our commitment to provide the best possible access and experience for patients who need these therapies."

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## New Medical Research

**Artemisinin, a potential option to inhibit inflammation and angiogenesis in rosacea.** Yuan X, Li J, Li Y, et al. Biomed Pharmacother. 2019 Sep;117:109181. doi: 10.1016/j.biopha.2019.109181. Epub 2019 Jul 5. https://www.ncbi.nlm.nih.gov/pubmed/31387196

Background: Rosacea is a facial chronic inflammatory skin disease with dysfunction of immune and vascular system. Artemisinin (ART), an anti-malaria drug, was reported to have several effects including anti-inflammation and anti-angiogenesis activities. However, the role of ART on rosacea remains unclear. Objectives: To investigate the effects and molecular mechanism of ART on rosacea. Method: In rosacea-like mouse model, the phenotype of rosacea lesions was evaluated by redness score, the inflammatory biomarkers were analyzed by qPCR, and the infiltration of inflammatory cells were assessed by IHC analysis and immunofluorescence. In vitro, LL37-induced expression of inflammatory factors in HaCaT cells was detected by qPCR, potential signaling pathways were detected by Western blotting or immunofluorescence. Migration ability of human umbilical vein endothelial cells (HUVECs) was evaluated by cell scratch and transwell assays. Result: The skin erythema and histopathological alteration, as well as the elevated pro-inflammatory factors (IL-1β, IL6, TNFα) and TLR2 were significantly ameliorated by ART treatment in LL37-induced rosacea-like mice. In addition, ART reduced the infiltration of CD4+ T cells, macrophages and neutrophils, and repressed the expression of immune cells related chemokines (CXCL10, CCL20, CCL2 and CXCL2)

in mouse lesions. In HaCaT cells, ART significantly decreased the LL37-induced expression of inflammatory biomarkers. Moreover, we found that ART inhibited rosacea-like inflammation via NF-kB signaling pathways in HaCaT cells. Finally, for vascular dysregulation, ART repressed the angiogenesis in mouse model and inhibited the LL37-induced HUVECs migration in vitro. Conclusion: ART ameliorated rosacea-like dermatitis by regulating immune response and angiogenesis, indicating that it could represent an effective therapeutic option for patients with rosacea.

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**Comparing cannula-based subcision with the common needle method: A clinical trial.** Nilforoushzadeh MA, Lotfi E, Heidari-Kharaji M, et al. Skin Res Technol. 2019 Aug 1. doi: 10.1111/srt.12761. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31373077

Of trial design: Treatment of depressed acne scars requires multiple modalities. Although needle subcision is a valuable method, it exhibits mild to moderate efficacy in treatment of deep acne scars owing to the high recurrence rate and other side effects. A total of 100 patients with rolling acne scars were randomly treated using the standard technique of 18-gauge cannula and 27-gauge needle subcision in two parallel groups, and the effect of cannula subcision instead of needle subcision was evaluated in the treatment of rolling acne scars. Methods: A total of 100 patients were randomly treated using the standard technique of 18-gauge cannula and 27-gauge needle subcision. The outcomes of these procedures were assessed by three blinded dermatologists and by patients' satisfaction. Results: Subcision using the cannula showed good and very good improvement in about 83% of patients ($n = 50$, $P < .05$) based on dermatologists' investigation and almost no side effects were observed in compared with needle subcision. The response rate was significantly different while using cannula subcision. Conclusion: Cannula subcision appears to be a safe and practical technique that can enhance the efficacy of subcision without considerable complications.

**The safety and impact of a model of intermittent, time-restricted circadian fasting ("Ramadan fasting") on hidradenitis suppurativa: Insights from a multicenter, observational, cross-over, pilot, exploratory study.** Damiani G, Mahroum N, Pigatto PDM, et al. Nutrients. 2019 Aug 1;11(8). pii: E1781. doi: 10.3390/nu11081781. https://www.ncbi.nlm.nih.gov/pubmed/31374976

Hidradenitis suppurativa (HS) is a chronic-relapsing and debilitating disease, which affects the components of the folliculopilosebaceous unit and severely impacts on the perceived health-related quality of life. Among the possible treatments, dietary interventions, such as fasting, have been described to positively impact on HS. However, nothing is known about the effects of circadian, intermittent fasting, such as the Ramadan fasting. A sample of 55 HS patients (24 males (43.6%) and 31 females (56.4%), mean age 39.65 ± 8.39 years, average disease duration 14.31 ± 7.03 years) was recruited in the present study. The "Severity of International Hidradenitis Suppurativa Severity Score System" (IHS4) decreased significantly from 11.00 ± 5.88 (before Ramadan) to 10.15 ± 6.45 (after Ramadan), with a mean difference of -0.85 ± 0.83 ($p < 0.0001$). At the univariate analyses, the improvement was associated with HS phenotype (with a prominent improvement among those with ectopic type), treatment (with the improvement being higher in patients receiving topical and systemic antibiotics compared to those treated with biologics), the "Autoinflammatory Disease Damage Index" (ADDI), and Hurley scores. At the multivariate regression analysis, only the Hurley score (regression coefficient = 0.70, $p = 0.0003$) was found to be an independent predictor of change in the IHS4 score after fasting. The improvement in the IHS4 score was not, however, associated with weight loss. In conclusion, the Ramadan fasting proved to be safe and effective in HS patients. Considering the small sample size and the exploratory nature of the present investigation, further studies in the field are warranted, especially

longitudinal, prospective and randomized ones.

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**Plasma dermcidin levels in acne patients and the effect of isotretinoin treatment on dermcidin levels.** Alatas ET, Kara Polat A, Kalaycı M, et al. Dermatol Ther. 2019 Jul 31:e13044. doi: 10.1111/dth.13044. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31364786

Acne vulgaris is a chronic inflammatory disease of the pilosebaceous unit. Dermcidin (DCD) is an antimicrobial peptide released from eccrine sweat glands and sebaceous glands. Studies investigating the role of DCD expression in acne development are scarce. The aim of this study was to determine the relationship between DCD expression and acne vulgaris and the effect of oral isotretinoin treatment on DCD levels. Two groups (1 patient group and 1 control group) were included in the study. The patient group consisted of 30 patients with acne vulgaris who were given oral isotretinoin treatment for six months until the cumulative dose was attained. Plasma DCD levels were investigated before and six months after treatment. The control group comprised 30 volunteer individuals without acne vulgaris or any inflammatory dermatosis. Of the patients, 24 (80%) had grade 3, 3 (10%) had grade 1, and 3 (10%) had grade 4 acne vulgaris, as determined according to the Pillsbury scoring method. The DCD levels in the control group were significantly higher than those in pretreatment patients ($39.53 \pm 20.2$ vs. $28.60 \pm 20.12$, $p = 0.004$). Additionally, pretreatment DCD levels were significantly increased after 6 months of isotretinoin treatment in the patient group ($28.60 \pm 20.12$ vs. $35.07 \pm 24.02$, $p = 0.012$). The mean pretreatment global acne grading system (GAGS) score of $20.86 \pm 4.43$ was decreased to $5.17 \pm 1.91$ in patients after treatment ($p < 0.001$). This study indicated that DCD plays an important role in the pathogenesis of acne. It demonstrates anti-inflammatory properties in acne vulgaris. Moreover, it was shown that isotretinoin treatment may improve acne vulgaris by increasing DCD levels.

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**The role of adolescent acne treatment in formation of scars among patients with persistent adult acne: Evidence from an observational study.** Chlebus E, Chlebus M. Cutis. 2019 July;104(01):57-61. https://www.mdedge.com/dermatology/article/204309/acne/role-adolescent-acne-treatment-formation-scars-among-patients

Persistent adult acne is one of the most difficult types of acne to treat. It is a long-lasting disease with uncontrolled exacerbations that often result in scarring. The aim of this study was to analyze the influence of acne therapy used in adolescence on patients who later developed persistent adult acne. The use of oral antibiotics, isotretinoin, and topical retinoids in adolescence and their role in diminishing scar formation during adult acne was analyzed. This population-based study included 111 patients, 91 of whom had persistent adult acne. Results indicated that the use of isotretinoin or topical retinoids for adolescent acne decreased the risk for scar occurrence in adulthood.

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**Microbiological tests of natural limonene and the compounds obtained after isomerization of limonene in the presence of ti-sba-15 catalyst-α-terpinene, γ-terpinene, terpinolene, and p-cymene.** Wróblewska A, Retajczyk M, Kądziołka D, Markowska-Szczupak A. J Cosmet Sci. 2019 May/Jun;70(3):137-147. https://www.ncbi.nlm.nih.gov/pubmed/31398102

The antimicrobial properties of natural limonene and the compounds obtained after isomerization of limonene (α-terpinene, γ-terpinene, terpinolene, and p-cymene) were studied. The following microorganisms were selected for the tests: Gram-negative bacteria Escherichia coli K12 (ACCT 25922), Gram-positive Staphylococcus epidermidis (ACCT 49461), yeast fungi Candida albicans, and fungi Trichophyton rubrum, Aspergillus niger, Penicillium commune, Trichoderma viride, and Cladosporium cladosporioides. During the studies, terpinolene showed the highest activity, and therefore, this compound was chosen for the preparation of therapeutic creams (content of terpinolene: 0.5 and 2 wt%). The obtained creams were active in the microbiological tests even at the lowest content of terpinolene. The mixture of products obtained after the isomerization of limonene also showed antimicrobial activity. Probably, in the future, this mixture of products can be used as a potential and relatively inexpensive ingredient in therapeutic and protective creams that can be applied for the relief of skin lesions and in the treatment of acne or atopic dermatitis.

## Clinical Reviews

**Complementary and alternative medicine use in hidradenitis suppurativa.** Kearney N, Byrne N, Kirby B, Hughes R. Br J Dermatol. 2019 Aug 9. doi: 10.1111/bjd.18426. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31396946

Hidradenitis suppurativa (HS) is a chronic incurable disease of apocrine gland-bearing skin characterized by double comedones, painful nodules and scarring most commonly in the axillae, inguinal and inframammary folds. Patients have increased rates of depression and anxiety and tend to come from lower socioeconomic backgrounds. Currently, recommended treatments include tetracycline antibiotics, rifampicin and clindamycin, acitretin, dapsone, and biologic agents, including adalimumab and infliximab. Surgery, weight reduction and smoking cessation are important adjuncts to treatment. Complementary and alternative medicine (CAM) has not been reported to have a therapeutic benefit in HS.

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**Remission of severe hidradenitis suppurativa following chemotherapy for Hodgkin's lymphoma.** Byrne N, Hughes R, Murphy LA, Kirby B. Br J Dermatol. 2019 Aug 9. doi: 10.1111/bjd.18423. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31396947

Hidradenitis suppurativa (HS) is a chronic painful skin disorder, characterized by recurrent inflammatory nodules and abscesses, predominantly affecting inverse sites. The condition affects 1 to 4% of the population and severely impacts quality of life. The exact pathogenesis is unknown. Association with autoimmune conditions including inflammatory bowel disease suggests an immune mediated process. We report a case of treatment resistant severe HS which exhibited complete remission following chemotherapy for the treatment of Hodgkin's lymphoma.

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**Chlorin, phthalocyanine, and porphyrin types derivatives in phototreatment of cutaneous manifestations: A review.** De Annunzio SR, Costa NCS, Mezzina RD, et al. Int J Mol Sci. 2019 Aug 8;20(16). pii: E3861. doi: 10.3390/ijms20163861. https://www.ncbi.nlm.nih.gov/pubmed/31398812

Recent scientific research has shown the use of chlorin, phthalocyanines, and porphyrins derivatives as

photosensitizers in photodynamic therapy in the treatment of various pathologies, including some of the major skin diseases. Thus, the main goal of this critical review is to catalog the papers that used these photosensitizers in the treatment of acne vulgaris, psoriasis, papillomavirus infections, cutaneous leishmaniasis, and skin rejuvenation, and to explore the photodynamic therapy mechanisms against these conditions alongside their clinical benefits.

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**Acne vulgaris: New evidence in pathogenesis and future modalities of treatment.** Hazarika N. J Dermatolog Treat. 2019 Aug 8:1-33. doi: 10.1080/09546634.2019.1654075. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31393195

Acne vulgaris, a common and chronic disorder of the pilosebaceous unit, affects up to 85% of adolescent and young adults. While a lot is already known about acne and its treatment, still the gaps in our understanding of acne remains. This article will review the emerging evidence in the complex pathogenesis of acne and provide an overview of the potential future therapy in management of acne vulgaris. Key Messages What is known? Propionibacterium acnes targeted therapy has been the mainstay in the management of acne till now. What is new? Sebocyte activity is controlled via a range of cellular pathways and hormones in addition to androgens. This has opened an array of therapeutic options to be available for treating acne in the near future.

**Recommendations for rosacea diagnosis, classification and management: Update from the global ROSacea COnsensus (ROSCO) 2019 panel.** Schaller M, Almeida LMC, Bewley A, et al. Br J Dermatol. 2019 Aug 7. doi: 10.1111/bjd.18420. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31392722

Background: A transition from subtyping to a phenotyping approach in rosacea is underway, allowing individual patient management according to presenting features instead of categorization by pre-defined subtypes. The ROSCO 2017 recommendations further supported this transition and align with guidance from other working groups. Objectives: To update and extend previous global ROSCO recommendations in line with the latest research and continue supporting uptake of the phenotype approach in rosacea through clinical tool development. Methods: Nineteen dermatologists and two ophthalmologists used a modified Delphi approach to reach consensus on statements pertaining to critical aspects of rosacea diagnosis, classification and management. Voting was electronic and blinded. Results: Delphi statements on which the panel achieved consensus of ≥75% voting 'Agree' or 'Strongly agree' are presented. The panel recommends discussing disease burden with patients during consultations, using four questions to assist conversations. The primary treatment objective should be achievement of complete clearance, due to previously established clinical benefits for patients. Cutaneous and ocular features are defined. Treatments have been reassessed in line with recent evidence and the prior treatment algorithm updated. Combination therapy is recommended to benefit patients with multiple features. Ongoing monitoring and dialogue should take place between physician and patients, covering defined factors to maximize outcomes. A prototype clinical tool (Rosacea Tracker) and patient case studies have been developed from consensus statements. Conclusions: The current survey updates previous recommendations as a basis for local guideline development and provides clinical tools to facilitate a phenotype approach in practice and improve rosacea patient management.

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**Concomitant psoriasis and hidradenitis suppurativa responsive to adalimumab therapy: A case series.** Yen CF, Huang YH, Chi CC. Indian J Dermatol Venereol Leprol. 2019 Aug 7. doi: 10.4103/ijdvl.IJDVL_455_18. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31389375

Psoriasis and hidradenitis suppurativa are inflammatory dermatoses that have been associated with arthritis, metabolic syndrome, obesity, and smoking. They share common pathogenic mechanisms such as elevated levels of several proinflammatory cytokines including tumor necrosis factor (TNF), interleukin-17A, and impaired Notch pathway. Thus, treatments for both diseases are sometimes overlapping. Biological therapy such as adalimumab is effective for patients with hidradenitis suppurativa and psoriasis. Adalimumab is a monoclonal antibody that binds to TNF and inhibits the cytokine interaction with the TNF receptors, thus inhibiting the inflammatory cascade. Currently, data are lacking on the treatment for co-occurrence of psoriasis and hidradenitis suppurativa. This case series describes three patients with a diagnosis of concomitant psoriasis and hidradenitis suppurativa. In these cases, after 12 weeks of treatment with adalimumab 40 mg every other week, the average Psoriasis Area Severity Index score reduced from 21.4 to 2.9 for psoriasis, Hidradenitis Suppurativa-Physician's Global Assessment from 3.3 to 0.7, and pain Visual Analog Scale for hidradenitis suppurativa from 4.6 to 2. The results suggest that adalimumab is a treatment of choice for patients with concomitant hidradenitis suppurativa and psoriasis.

**Identifying anemia in a cohort of patients with hidradenitis suppurativa.** Soliman YS, Chaitowitz M, Hoffman LK, et al. J Eur Acad Dermatol Venereol. 2019 Aug 2. doi: 10.1111/jdv.15837. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31374127

Hidradenitis suppurativa (HS) is a chronic inflammatory condition characterized by recurrent skin abscesses and dermal tracts. It can be graded using the Hurley staging system in clinical practice. Associated comorbidities include obesity, diabetes, metabolic syndrome, depression, and inflammatory bowel disease. Illnesses characterized by systemic inflammation are frequently accompanied by anemia of chronic disease (AoCD). Case reports describe improvement in hemoglobin (Hb) with successful treatment of HS, suggesting that anemia here is likely attributable to inflammation (AoCD), and is a secondary feature of active HS.

**Prolonged serum alanine aminotransferase elevation associated with isotretinoin administration.** Nazarian RS, Zheng E, Halverstam C, et al. Case Reports Hepatol. 2019 Jul 17;2019:9270827. doi: 10.1155/2019/9270827. eCollection 2019. https://www.ncbi.nlm.nih.gov/pubmed/31380129

Isotretinoin is a highly effective oral retinoid derivative for severe forms of acne. Despite its high margin of safety, isotretinoin carries a risk of teratogenicity and mild to massive elevations of serum cholesterol and triglyceride levels, as well as infrequent transaminitis. Liver dysfunction induced by isotretinoin is rare, but it poses a management dilemma. We describe a 16-year-old male in whom alanine aminotransferase (ALT) rose from a baseline of 13 to 288 U/L after 20 weeks of treatment with 1.0-1.4 mg/kg of oral isotretinoin daily. Though the patient remained asymptomatic, ALT levels did not return to normal limits for approximately 8 months after discontinuation of therapy, an observation that has not been documented in the literature. When oral isotretinoin was readministered for intractable facial acne 3 years later, liver enzymes remained normal throughout the course of therapy. Although the pathogenesis and prognosis of retinoid-induced hepatotoxicity are unknown, this case illustrates that isotretinoin may be safely readministered after normalization of liver function tests.

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**What's new in the management of acne vulgaris.** Kircik L. Cutis. 2019 July;104(01):48-52. https://www.mdedge.com/dermatology/article/204308/acne/whats-new-management-acne-vulgaris

Drug development continues to focus on the challenge of treating acne effectively and safely. Inflammation is a backdrop to the commonly cited elements of the pathophysiology of acne: Propionibacterium acnes proliferation, increased sebum production with an increase in circulating androgens, and faulty keratinization. As such, there is increased emphasis on targeting inflammation and its effects. Vehicle innovations are optimizing existing active drugs and creating opportunities to deliver new compounds to the skin. Recently approved sarecycline is the first new chemical entity approved for acne in several years. It might be followed in coming years by other new actives, including clascoterone and cannabidiol (CBD). Inflammation is a backdrop to the commonly cited elements of the pathophysiology of acne: Propionibacterium acnes proliferation, increased sebum production with an increase in circulating androgens, and faulty keratinization. In fact, research shows that the initiating lesion of acne vulgaris—the microcomedone—is, in essence, an inflammatory lesion. This realization has clearly influenced the approach to acne treatment but has not yielded a bevy of new treatments. A better understanding of acne pathophysiology and the role of inflammation has, however, yielded a better understanding of how existing therapies treat the disease and have led to more comprehensive treatment strategies that are multitargeted. Nonetheless, topical and oral antibiotics remain mainstays of acne therapy, along with topical retinoids and benzoyl peroxide. Current guidelines of care for acne emphasize strategies that reduce dependence on antibiotics and minimize the risk for resistance. The therapeutic landscape might at last be shifting, with new chemical entities for acne and several novel formulations in development.

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**Establishing the diagnosis of rosacea in skin of color patients.** Onalaja AA, Lestoer JC, Taylor SC. Cutis. 2019 July;104(01):38-41. https://www.mdedge.com/dermatology/article/204437/rosacea/establishing-diagnosis-rosacea-skin-color-patients

Rosacea is a chronic inflammatory cutaneous disorder that may be underreported and underrecognized in skin of color (SOC) patients. There are several skin disorders that can present with the classic features of rosacea, such as erythema, papules, and pustules, which can confound the diagnosis. To promote accurate and timely diagnosis of rosacea, we review possible rosacea mimickers in SOC patients. Rosacea is a chronic inflammatory cutaneous disorder that affects the vasculature and pilosebaceous units of the face. Delayed and misdiagnosed rosacea in the SOC population has led to increased morbidity in this patient population. It is characterized by facial flushing and warmth, erythema, telangiectasia, papules, and pustules. The major subtypes include erythematotelangiectatic, papulopustular, phymatous, and ocular rosacea. Granulomatous rosacea is considered to be a unique variant of rosacea. Until recently, rosacea was thought to predominately affect lighter-skinned individuals of Celtic and northern European origin. A paucity of studies and case reports in the literature have contributed to the commonly held belief that rosacea occurs infrequently in patients with skin of color (SOC). A PubMed search of articles indexed for MEDLINE revealed 32 results using the terms skin of color and rosacea vs 3786 using the term rosacea alone. It is possible that the nuance involved in appreciating erythema or other clinical manifestations of rosacea in SOC patients has led to underdiagnosis. Alternatively, these patients may be unaware that their symptoms represent a disease process and do not seek treatment. Many patients with darker skin will have endured rosacea for months or even years because the disease has been unrecognized or misdiagnosed. Another factor possibly accounting for the perception that rosacea occurs infrequently in patients with SOC is misdiagnosis of rosacea as other diseases that are known to occur more commonly in the SOC population. Dermatologists should be aware that rosacea can affect

SOC patients and that there are several rosacea mimickers to be considered and excluded when making the rosacea diagnosis in this patient population. To promote accurate and timely diagnosis of rosacea, we review several possible rosacea mimickers in SOC patients and highlight the distinguishing features.

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**Acne keloidalis in an Asian female patient.** Togo S1 Sugawara K, Tsuruta D. Clin Case Rep. 2019 Jun 14;7(7):1412-1414. doi: 10.1002/ccr3.2170. eCollection 2019 Jul. https://www.ncbi.nlm.nih.gov/pubmed/31360500

Although AK is uncommon in Asians, this diagnosis must be suspected if specific clinical picture is seen. Early treatment is advised to avoid scarring alopecia but to avoid firmness of these plaques. Although we need to further investigate, IL-6 could be a new target for the development of novel treatments.

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**Association of antibiotic resistance with antibiotic use for epidermal growth factor receptor inhibitor-related papulopustular eruption.** Hirotsu K, Dang TM, Li S, et al. JAMA Dermatol. 2019 Jul 1;155(7):848-850. doi: 10.1001/jamadermatol.2019.0063. https://www.ncbi.nlm.nih.gov/pubmed/31017625

Papulopustular eruption (PPE) develops in up to 90% of patients with cancer treated with epidermal growth factor receptor (EGFR) inhibitors. Consensus recommendations for management include emolliation, sunscreen, topical corticosteroids, and topical and systemic antibiotics, which effectively decrease severity of EGFR inhibitor–related PPE. Although the initial EGFR inhibitor–related PPE is sterile, secondary infection increases the severity and duration of PPEs. Higher-grade, refractory cases may show antibiotic-resistant bacterial infection on wound culture. This study investigated whether use of topical clindamycin and/or oral tetracyclines during management of EGFR inhibitor–related PPE is associated with antibiotic-resistant bacterial infection.

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**Topical tretinoin: A versatile option for adult female acne.** Practical Dermatology. June 2019. https://practicaldermatology.com/articles/2019-june-supplement/topical-tretinoin-a-versatileoption-for-adult-female-acne?c4src=issue:feed

Adult female acne can be challenging—from patients being frustrated at having to deal with acne for the first time or again at this stage of life, to being unsatisfied with treatments because they are irritating or ineffective. Achieving best outcomes and improving patient satisfaction requires physicians to understand patients' treatment goals, to realistically set patient expectations regarding the effects of treatment, and to empower patients to be active and compliant in their care. According to the Global Burden of Disease (GBD) study, acne vulgaris affects ~85% of young adults aged 12–25 years. The disease has shown continuous progression, and according to the American Academy of Dermatology, 53.8 percent of patients with acne who present to a physician for treatment are in the 18- to 44-year-old age category. Recently, leading dermatologists gathered for a roundtable discussion to discuss strategies and tips for effective treatment, particularly in light of a recently approved FDA-approved topical treatment, ALTRENO™ (tretinoin) Lotion, 0.05%. "Many of us know that about 4 in 5 people will experience acne at some point in their lives. And even many of our adult female patients who present for aesthetic treatments have acne," says Sabrina Fabi, MD, a dermatologist in San Diego and roundtable moderator. Dr. Fabi says the first step in any treatment plan is starting the conversation and opening a dialogue with patients about their concerns and the fact that good, effective treatment

options are available. The first priority is to make sure that you don't offend patients, says Jeanine Downie, MD, a dermatologist in Montclair, NJ. When patients present to her office for another concern such as removing a mole or to improve the appearance of wrinkles in their forehead with a neurotoxin injection, she says she makes sure to bring up acne if the patients show any signs of it. "If they're worried about wrinkles in their forehead, etc., I'll inject botulinum toxin and then I'll say, 'Oh, and by the way, you do realize what's going to crop up in another week or whenever the botulinum toxin kicks in for you? Then you're really going to be focused on those small little acne bumps you have up there because they're going to become more noticeable as your wrinkles go away from use of the botulinum toxin.' Typically, patients respond by saying they meant to ask me about their acne," Dr. Downie says. "So I address their first concern first and then I'll blend it into a conversation like that." She finds most patients are happy she addressed the concern and learn about treatment because for most patients with visible acne, it likely bothers and frustrates them. Diane Berson, MD, who practices in New York City, agrees. Dr. Berson says she has a similar approach. She always asks patients about their skincare regimens and finds acne comes up with a majority of her patients. "Honestly, most everyone really gets acne to some degree. Invariably, it becomes a discussion mostly for my patients, but also about my patients' kids—there's often a conversation about acne," says Dr. Berson. "Obviously when discussing acne therapy there are a few things that are relevant, especially for adult women. Retinoids are usually first-line therapy targeting acne. Women prefer skincare products that are cosmetically elegant. Vehicles and formulations are key for products used on aging skin, including moisturizers, sunscreens, and makeup. We can choose the best vehicle for each patient's skin type." Doris Day, MD, who also has a practice in New York City, finds she never has to worry about starting the conversation. "In my practice, if a patient has one pimple, they want to make sure it doesn't leave a mark behind and they want to make sure more pimples don't follow. They want their skin to be as clear as possible. It's not like I have to worry about bringing it up, if they're in for something else, they will say, 'I'm here for my botulinum toxin but this pimple is driving me crazy and I'm worried it will get worse.' They're very sensitive about appearance and about a pimple leaving a scar," Dr. Day says. Erin Gilbert, MD says that no matter what a patient is coming to her office for, she starts the visit by discussing everything they are already using in their daily skincare routines, which can trigger a discussion about a concern like acne. "If they're coming in and they're getting injections with me I also sit down and say, 'Okay, we're going to break it up into morning and evening, what products do you use? Do you have any concerns about those products? Do you want to talk about changing those products?' So that's an opportunity for me to make suggestions. I ask them if they're using a retinoid for their acne and if they are appropriate for a retinoid but not on one, I get them on a retinoid," says Dr. Gilbert, who also practices in New York. Ava Shamban, MD, who practices in Santa Monica, CA and Beverly Hills, CA, agrees with Dr. Gilbert's approach to patient consultations, no matter what brings them to her office. "The quality of the skin to me is first and foremost, so I always start there. Virtually everyone, especially in California, could benefit from a tretinoin whose mechanism of action includes stimulating collagen and normalizing cell differentiation. I think it's a key component of an optimal skincare regimen." she explains. "Tretinoin stimulates collagen production and it also interferes with the transfer of melanin," says Dr. Berson. Dr. Day agrees. "I think if you look at any magazine, any month of any year, retinoids still come up as a go-to key ingredient to treat acne and make your skin look healthy," she says. "And it has not gotten old. The more that we learn about it, the more that we study it, the more we realize how important and relevant it is."

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# Patient Counseling/Communication

**Update on diet and acne.** Matsui MS. Cutis. 2019 July;104(01):11-13
https://www.mdedge.com/dermatology/article/204363/acne/update-diet-and-acne

Acne is a common condition that most often affects adolescents but is not uncommon in adults. It can result in considerable anxiety, depression, and medical and pharmaceutical costs. Additionally, oral antibiotics, the standard treatment for acne, are increasingly under suspicion for causing bacterial resistance as well as disruption of the cutaneous and gut microbiomes. These factors are among those that often drive patients and physicians to search for alternative and complementary treatments, including dietary modification. Over the last few decades, the interaction between diet and acne has been one of the most fluid areas of research in dermatology. The role of diet in acne incidence and presentation has evolved from the general view in the 1970s that there was no connection to today's more data-driven understanding that the acne disease course likely is modified by specific dietary components. Better designed and more rigorous studies have supported a link between acne severity and glycemic index (GI)/glycemic load (GL) and possibly dairy consumption. The ability to use data-driven evidence to counsel patients regarding dietary treatment of acne is increasingly important to counteract the pseudoadvice that patients can easily find on the Internet. This article summarizes the history of beliefs about diet and acne, reviews more recent published data regarding dietary components that can modify acne severity and outlines the current American Academy of Dermatology (AAD) guidelines and recommendations for diet and acne.

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