AARS HOT TOPICS MEMBER NEWSLETTER

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Industry News

The AARS just completed the fourth roundtable meeting of the Scientific Panel on Antibiotic Use in Dermatology (SPAUD)! Stay tuned and check our website for future updates! See https://acneandrosacea.org/initiatives/spaud for more information in the coming weeks.

Foamix begins dosing in phase 3 trials of minocycline foam for rosacea. June 13, 2017. Healio Dermatology News. http://www.healio.com/news/online/%7B1deaf1c9-dc40-451c-893d-c2c0a1c616d3%7D/foamix-begins-dosing-in-phase-3-trials-of-minocycline-foam-for-rosacea

Foamix Pharmaceuticals Ltd announced that the first patient has been dosed in a phase 3 program to measure the efficacy and safety of FMX103, topical minocycline foam 1.5%. The program consists of two studies, with each enrolling approximately 750 patients with moderate-to-severe papulopustular rosacea into a 12-week double-blind, vehicle-controlled phase, followed by a 9-month open-label safety extension phase with the active 1.5% minocycline foam, according to a press release. The studies are being conducted at multiple sites in the United States. In the initial 12 weeks of the study, patients will be randomized on a 2:1 basis (1.5% minocycline foam vs vehicle) and treated once daily. The proportion of patients achieving success at week 12 based on an Investigator's Global Assessment of "clear" or "almost clear" and at least a 2-grade improvement from baseline, and the mean change from baseline in inflammatory lesion counts in each treatment group at week 12 will be used as primary efficacy endpoints, according to the release. Reported adverse events, assessments of tolerability, clinical laboratory tests and vital signs will be used to measure safety of the product. Patients who complete the initial 12 weeks of treatment will have the option to continue in a long-term extension to evaluate the safety of intermittent use of FMX103 for up to an additional 9 months, according to the release. Foamix reported that its phase 2 clinical trial involving 233 patients with moderate-to-severe rosacea enrolled at 18 sites throughout Germany demonstrated significant efficacy for the 1.5% concentration of minocycline foam compared to a vehicle control group. The company expects top-line data from the phase 3 studies in mid-2018, according to the release. Reference: www.foamix.com

BPX-01 2% reduced acne lesions by 59%. June 1, 2017. Healio Dermatology News. http://www.healio.com/dermatology/acne/news/online/%7Bea269604-d21c-484b-97d7-b1cc835197df%7D/bpx-01-2-reduced-acne-lesions-by-59

BioPharmX Corporation announced comprehensive phase 2b clinical data results that showed BPX-01 2% reduced the number of inflammatory lesions in acne patients by 59% compared with 44% in vehicle, while also suggesting it may lessen the severity of lesions. The multi-center phase 2b study evaluated two concentrations of BPX-01 (1% and 2% minocycline) and vehicle in 226 people, aged 9 to 40 years, with moderate-to-severe inflammatory, non-nodular acne vulgaris. BPX-01 is an investigational hydrophilic topical gel with fully solubilized minocycline that can penetrate the skin to deliver the antibiotic to where acne develops in the pilosebaceous unit, according to a news release. The study showed the 2% concentration was statistically superior in reducing the number of inflammatory lesions in patients with moderate-to-severe acne, compared to vehicle at week 12, according to the release. The five-point investigator's global assessment (IGA) scale also was measured, with 25% of patients treated with BPX-01 2% showing at least a two-grade improvement and an IGA of clear or almost clear, a secondary efficacy endpoint in the study. The results were not statistically significant; however, a clear numerical trend was observed in

the BPX-01 2% arm a clear numerical trend compared to vehicle, according to the release. While the phase 2b study was not powered to measure IGA statistical significance, IGA will be a required co-primary endpoint in a phase 3 study, BioPharmX announced. There were no serious treatment-related adverse events reported. "We are very pleased about the initial efficacy we are seeing in lesion reduction with BPX-01 2% and look forward to end-of-phase 2 discussions with the [FDA]," Anja Krammer, co-founder and president of BioPharmX, stated in the release. The phase 2B study results were presented at a "State of Acne" symposium in New York City. which included principal investigators of the study. Reference: www.biopharmx.com

Skin's Bacterial 'Balance' May Help Trigger Acne. By Robert Preidt. April 6, 2017. HealthDay News http://health.usnews.com/health-care/articles/2017-04-05/skins-bacterial-balance-may-help-trigger-acne

An unbalanced population of bacteria on the skin may play a major role in acne, according to a new, small study. Up to 85 percent of people develop acne, a disease of hair follicles on the skin, but its exact causes are unclear. One specific type of bacteria has long been suspected, but this study suggests the presence or absence of one particular strain is less important than the overall balance of bacteria on the skin. Researchers analyzed DNA from skin follicle samples of 38 people with acne and 34 without the condition. The investigators then confirmed their findings with 10 more volunteers. The results suggest "that the make-up of the bacteria in the follicles can reflect, as well as influence, the skin condition in acne or healthy skin," study leader Huiying Li said in a news release from the Microbiology Society. Li is an associate professor of molecular and medical pharmacology at the University of California, Los Angeles. Study co-author Emma Barnard said understanding the bacterial community on the skin is important to developing personalized acne treatments. "Instead of killing all bacteria, including the beneficial ones, we should focus on shifting the balance toward a healthy microbiota by targeting harmful bacteria or enriching beneficial bacteria," she said in the news release. Barnard is a researcher in UCLA's department of molecular and medical pharmacology. The study was to be presented Wednesday at the annual meeting of the Microbiology Society, in Edinburgh, Scotland, and is also published in the journal Scientific Reports. More information: The U.S. National Institute of Arthritis and Musculoskeletal and Skin Diseases has more on acne.

An Acne Vaccine Is On Its Way. By Joy D'Souza. The Huffington Post Canada. Posted: 04/05/2017 http://www.huffingtonpost.ca/2017/04/05/acne-vaccine_n_15830598.html

Good news for teens (and adults) suffering from acne! A group of researchers at the University of California, San Diego are working on a vaccine to cure the skin condition. The vaccine is meant to rid the skin of bacteria that causes pimples and breakouts, without harming the microbes your body actually needs. “Acne is caused, in part, by P. acnes bacteria that are with you your whole life — and we couldn’t create a vaccine for the bacteria because, in some ways, P. acnes are good for you,” lead researcher, Dr. Eric C. Huang told Allure of the logistics surrounding the vaccine. “But we found an antibody to a toxic protein that P. acnes bacteria secrete on skin — the protein is associated with the inflammation that leads to acne.” Dr. Huang and his team have tested the vaccine on skin biopsies with success and are looking to extend their research on to real-life patients. “The next step is testing it on patients in clinical trials,” Dr. Huang said.

New Medical News

Differences in Dietary Glycemic Load and Hormones in New York City Adults with No and Moderate/Severe Acne. Burris J, Rietkerk W, Shikany JM, Woolf K. J Acad Nutr Diet. 2017 Jun 9. pii: S2212-2672(17)30334-9. doi: 10.1016/j.jand.2017.03.024. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28606553

BACKGROUND: Glycemic index (GI) and glycemic load (GL) may be implicated in acne pathogenesis. OBJECTIVE: This cross-sectional study examined differences between GI/GL and biological factors associated with acne among adults with and without moderate/severe acne. Secondary objectives included examining differences between food-aggravated acne beliefs and acne-specific quality of life among adults with and without moderate/severe acne. DESIGN: As part of a cross-sectional study, participants completed a 5-day food record; blood draw to measure biological factors associated with acne (ie, glucose, insulin, insulin-like growth factor-1, insulin-like growth factor binding protein-3, and sex hormone-binding globulin concentrations); body composition assessment; and questionnaire to evaluate food-aggravated acne beliefs and acne-specific quality of life. Food records were analyzed using Nutrition Data Services for Research. PARTICIPANTS: Sixty-four participants (no acne, n=32; moderate/severe acne, n=32) from New York City, NY, were included in this study. STATISTICAL ANALYSIS: Independent sample t tests and Mann-Whitney tests examined differences in anthropometric measurements, dietary intakes, biological factors associated with acne, insulin resistance, and acne-specific quality of life between acne groups. A $\chi 2$ test for independence assessed differences in food-aggravated acne beliefs between acne groups. RESULTS: Participants with moderate/severe acne consumed greater total carbohydrate (P=0.003), available carbohydrate (P<0.001), percent energy from carbohydrate (P<0.001), and GL (P<0.001) compared to participants without acne. Participants with moderate/severe acne had greater insulin (P=0.002) and insulin-like growth factor-1 (P=0.009) concentrations, greater insulin resistance (P=0.001), and lower sex hormone-binding globulin (P=0.015) concentrations compared to participants without acne. Although there were no differences between groups, 61% of participants reported food-influenced acne. Participants with moderate/severe acne reported a lower quality of life compared to participants without acne (P<0.001). CONCLUSIONS: The results from this cross-sectional study suggest a relationship between dietary carbohydrate, including GL, and acne. Future research is necessary to determine the effect of medical nutrition therapy on biological factors associated with acne and acne severity.

Mechanistic analysis of human skin distribution and follicular targeting of adapalene loaded biodegradable nanospheres with an insight into hydrogel matrix influence, in-vitro skin irritation and in-vivo tolerability. Sallam MA, Marín Boscá M2. J Pharm Sci. 2017 Jun 8. pii: S0022-3549(17)30433-1. doi: 10.1016/j.xphs.2017.05.038. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28603018

This work aimed at the development of a biocompatible, non-oily nanomedicine for follicular delivery of adapalene (AD) ameliorating its irritation potential for convenient localized topical treatment of acne vulgaris. AD was efficiently incorporated into poly-Ɛ-caprolactone nanospheres (NS) with an encapsulation efficiency of (84.73± 1.52%), a particle size of (107.5± 8.19 nm), and zeta potential of -13.1 mV demonstrating a sustained release behavior. The AD-NS were embedded in either HPMC or hyaluronate gel (HA). The ex-vivo human skin dermatokinetics of AD from each system was studied. The NP dispersion showed significantly higher AD retention in the epidermis and dermis than AD suspension. NS-HPMC decreased while NS-HA increased AD retained in all the skin layers. The fate of the NS and the role of the hydrogel in modulating skin distribution was evaluated by CLSM imaging of fluorescently labeled NS. CLSM illustrated follicular localization of the florescent NS. HPMC gel restricted the

presence of NS to the SC and epidermis. HA gel enhanced the penetration of NS to all the skin layers. In vitro skin irritation using human dermal fibroblasts and in-vivo animal tolerability studies were performed. Accordingly, HA gel dispersed AD-NS presented a non-irritant compromised cosmeceutical formulation suitable for oily acneic skin.

Synergistic Antibacterial Effects of Chitosan-Caffeic Acid Conjugate against Antibiotic-Resistant Acne-Related Bacteria. Kim JH, Yu D, Eom SH, et al. Mar Drugs. 2017 Jun 8;15(6). pii: E167. doi: 10.3390/md15060167. http://www.mdpi.com/1660-3397/15/6/167

The object of this study was to discover an alternative therapeutic agent with fewer side effects against acne vulgaris, one of the most common skin diseases. Acne vulgaris is often associated with acne-related bacteria such as Propionibacteriumacnes, Staphylococcusepidermidis, Staphylococcusaureus, and Pseudomonasaeruginosa. Some of these bacteria exhibit a resistance against commercial antibiotics that have been used in the treatment of acne vulgaris (tetracycline, erythromycin, and lincomycin). In the current study, we tested in vitro antibacterial effect of chitosan-phytochemical conjugates on acne-related bacteria. Three chitosan-phytochemical conjugates used in this study exhibited stronger antibacterial activity than that of chitosan (unmodified control). Chitosan-caffeic acid conjugate (CCA) showed the highest antibacterial effect on acne-related bacteria along with minimum inhibitory concentration (MIC; 8 to 256 μg/mL). Additionally, the MIC values of antibiotics against antibiotic-resistant P. acnes and P.aeruginosa strains were dramatically reduced in combination with CCA, suggesting that CCA would restore the antibacterial activity of the antibiotics. The analysis of fractional inhibitory concentration (FIC) indices clearly revealed a synergistic antibacterial effect of CCA with antibiotics. Thus, the median sum of FIC (∑FIC) values against the antibiotic-resistant bacterial strains ranged from 0.375 to 0.533 in the combination mode of CCA and antibiotics. The results of the present study suggested a potential possibility of chitosan-phytochemical conjugates in the control of infections related to acne vulgaris.

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Safety and Efficacy of Peeling During Different Periods of the Menstrual Cycle on Acne. Bulbul Baskan E, Tilki Günay I, Saricaoglu H. J Cosmet Laser Ther. 2017 Jun 1. doi: 10.1080/14764172.2017.1334926. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28569570

BACKGROUND AND DESIGN: The aim of this study was to investigate the efficacy of 50% glycolic acid peeling performed at different phases of menstruation on acne. MATERIAL AND METHOD: This study included 30 patient with mild to moderate acne. Those with regular menstrual cycles and no history or laboratory evidence of hormonal pathology, hirsutism were selected.Thirty patients were divided three groups. The first group received peeling applications in the first 7 days of menstruation the second group received the peel between 10-14 days,the third group received the peel during the last 10 days of menstruation. RESULTS: The 30 female patients included in study.All patients' menstrual cycles were regular. All groups were homogenous in terms of initial acne severity scores. Acne severity scores decreased in all groups after 3 months of therapy statistically significant differences were achieved only in the second group. DISCUSSION: The results of our study suggest that chemical peeling administered during ovulation provides the most significant benefit for acne lesions. Ovulation is the period when estrogen reaches its highest level. Estrogen decreases sebum production through different mechanisms. The beneficial effects of estrogen on acne and healing in combination with those of chemical peeling may cause synergistic therapeutic effects with pronounced results.

DOMINO, doxycycline 40 mg vs. minocycline 100 mg in the treatment of rosacea: a randomized, single-blinded, noninferiority trial, comparing efficacy and safety. van der Linden MMD, van Ratingen AR, van Rappard DC, Nieuwenburg SA, Spuls PI. Br J Dermatol. 2017 Jun;176(6):1465-1474. doi: 10.1111/bjd.15155. Epub 2017 May 8. http://onlinelibrary.wiley.com/doi/10.1111/bjd.15155/abstract

BACKGROUND: There is a lack of evidence for minocycline in the treatment of rosacea. OBJECTIVES: To compare the efficacy and safety of doxycycline 40 mg vs. minocycline 100 mg in papulopustular rosacea. METHODS: In this randomized, single-centre, 1 : 1 allocation, assessor-blinded, noninferiority trial, patients with mild-to-severe papulopustular rosacea were randomly allocated to either oral doxycycline 40 mg or minocycline 100 mg for a 16-week period with 12 weeks of follow-up. Our primary outcomes were the change in lesion count and change in patient's health-related quality of life (using RosaQoL). Intention-to-treat and per protocol analyses were performed. RESULTS: Of the 80 patients randomized (40 minocycline, 40 doxycycline), 71 were treated for 16 weeks. Sixty-eight patients completed the study. At week 16, the median change in lesion count was comparable in both groups: doxycycline vs. minocycline, respectively 13 vs. 14 fewer lesions. The RosaQoL scores were decreased for both doxycycline and minocycline, respectively by 0·62 and 0·86. Secondary outcomes were comparable except for Investigator's Global Assessment success, which was seen significantly more often in the minocycline group than in the doxycycline group (60% vs. 18%, P < 0·001). At week 28, outcomes were comparable, except for RosaQoL scores and PaGA, which were significantly different in favour of minocycline (P = 0·005 and P = 0·043, respectively), and fewer relapses were recorded in the minocycline group than in the doxycycline group (7% and 48%, respectively; P < 0·001). No serious adverse reactions were reported. CONCLUSIONS: Minocycline 100 mg is noninferior to doxycycline 40 mg in efficacy over a 16- week treatment period. At follow-up, RosaQoL and PaGA were statistically significantly more improved in the minocycline group than in the doxycycline group, and minocycline 100 mg gives longer remission. In this study there was no significant difference in safety between these treatments; however, based on previous literature minocycline has a lower risk-to-benefit ratio than doxycycline. Minocycline 100 mg may be a good alternative treatment for those patients who, for any reason, are unable or unwilling to take doxycycline 40 mg.

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Development and initial psychometric evaluation of patient-reported outcome questionnaires to evaluate the symptoms and impact of hidradenitis suppurativa. Kimball AB, Sundaram M, Banderas B, et al. J Dermatolog Treat. 2017 Jun 13:1-40. doi: 10.1080/09546634.2017.1341614. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28608738

BACKGROUND: Two patient-reported outcome (PRO) questionnaires, the Hidradenitis Suppurativa Symptom Assessment (HSSA) and Hidradenitis Suppurativa Impact Assessment (HSIA), were developed to measure signs, symptoms, and impacts of HS in treatment efficacy studies. METHODS: In accordance with FDA guidelines and published best practices, four stages of research were conducted to create the questionnaires: concept elicitation, questionnaire construction, content evaluation, and psychometric evaluation. RESULTS: Subjects (N = 20) who participated in the concept elicitation stage reported 15 unique HS-related signs and symptoms and 51 impacts. Following this, eight sign and symptom concepts and 21 impacts were selected for construction of the HSSA and HSIA, respectively. During content evaluation, cognitive debriefing interviews with HS subjects (N = 20) confirmed subjects could read, comprehend, and meaningfully respond to both questionnaires. Modifications made after this stage of work resulted in a nine-item HSSA and a 17-item HSIA. The HSSA and HSIA were subsequently entered into a US-based observational study (N = 40), and the scores produced by each were found to be reliable, construct

valid, and able to distinguish among clinically distinct groups. CONCLUSION: The HSSA and HSIA are content-valid, HS-specific, PRO questionnaires with demonstrated ability to generate reliable, valid scores when administered to patients with HS in a research setting.

The Follicular Skin Microbiome in Patients With Hidradenitis Suppurativa and Healthy Controls. Ring HC, Thorsen J, Saunte DM, et al. JAMA Dermatol. 2017 May 24. doi: 10.1001/jamadermatol.2017.0904. [Epub ahead of print] http://jamanetwork.com/journals/jamadermatology/fullarticle/2628754

Importance: Although the pathogenesis of hidradenitis suppurativa (HS) remains enigmatic, several factors point to potential involvement of the cutaneous microbiome. Insight into the cutaneous microbiome in HS using next-generation sequencing may provide novel data on the microbiological diversity of the skin. Objective: To investigate the follicular skin microbiome in patients with HS and in healthy controls. Design, Setting, and Participants: This case-control study obtained punch biopsy specimens from patients with HS (lesional and nonlesional) and healthy controls between October 1, 2014, and August 1, 2016. Data were analyzed from March to November 2016. Patients with HS were recruited from the Department of Dermatology, Zealand University Hospital, Roskilde, Denmark. Biopsy specimens were analyzed at the Department of Microbiology and Infection Control, Statens Serum Institut, Copenhagen, Denmark. None of the participants received any antibiotics (systemic or topical therapy) within 1 month before the study. In patients with HS, biopsy specimens were obtained from lesional skin (axilla or groin) and nonlesional skin. Only nodules containing at least 1 visible hair follicle were biopsied. Biopsy specimens from healthy controls were obtained from the axilla only. Main Outcomes and Measures: The different microbiomes were investigated using next-generation sequencing targeting 16S and 18S ribosomal RNA. Results: The skin microbiome was characterized in 30 patients with HS (mean [SD] age, 46.9 [14.0] years; 19 [63% female]) and 24 healthy controls (mean [SD] age, 32.2 [12.0] years; 13 [54% female]). The next-generation sequencing data provided a previously unreported (to our knowledge) characterization of the skin microbiome in HS. The study demonstrated that the microbiome in HS differs significantly from that in healthy controls in lesional and nonlesional skin. Overall, the following 5 microbiome types were identified: Corynebacterium species (type I), Acinetobacter and Moraxella species (type II), Staphylococcus epidermidis (type III), Porphyromonas and Peptoniphilus species (type IV), and Propionibacterium acnes (type V). In lesional skin, microbiome types consisted predominantly of type I or type IV. Microbiome type IV was not detected in healthy controls. Several taxa, including Propionibacterium, showed a significantly higher relative abundance in healthy controls vs HS skin, indicating that Propionibacterium may be part of the pathogenesis in HS. Conclusions and Relevance: The study findings suggest a link between a dysbiotic cutaneous microbiome and HS.

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Topical tretinoin resolves inflammatory symptoms in rosacea, in small study. By: Bianca Nogrady. May 17, 2017. MDEdge. http://www.mdedge.com/edermatologynews/article/138441/rosacea/topical-tretinoin-resolves-inflammatory-symptoms-rosacea?channel=291

AT ACDASM 2017, SYDNEY, AUSTRALIA – Treatment with topical tretinoin resulted in complete resolution of rosacea symptoms in a significant number of patients, in a small retrospective study presented at the annual meeting of the Australasian College of Dermatologists. “As an intermediary step between topical antibiotics and oral isotretinoin, we propose that topical tretinoin may be effective in the management and reduction of rosacea symptoms,” Emily Forward, MD, of the University of Sydney, said at the meeting. There has been recent discussion

regarding the use of low-dose isotretinoin in the treatment of rosacea, but safety with long-term use is an issue, she noted. She and her associates conducted a retrospective study of 25 patients with mild to severe rosacea who were treated with topical tretinoin 0.05% as monotherapy. They were also counseled on the use of sunscreen and moisturizer. They were followed up for a mean of 6 months (range 2-24 months). More than 80% of patients had complete or excellent resolution of papules and pustules, with only one patient showing no benefit. Of the patients with erythema as the primary feature of their rosacea, 42% achieved complete resolution, 33% achieved excellent resolution, 17% achieved a good response, and 8% showed no benefit, Dr. Forward reported. Among patients with telangiectasia, 40% achieved complete resolution, while 37% of those with flushing achieved complete resolution. Topical tretinoin should be considered among the treatment options for rosacea "as it is effective, well tolerated, and has synergistic benefits in the prevention of photoaging," Dr. Forward said. The ideal patient candidate would be someone with inflammatory features such as papules, pustules, or erythema, she added.

Clinical Reviews

Acneiform eruptions caused by vitamin B12: A report of five cases and review of the literature. Veraldi S, Benardon S, Diani M, Barbareschi M. J Cosmet Dermatol. 2017 Jun 8. doi: 10.1111/jocd.12360. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28594082

We describe five cases of acneiform eruption caused by vitamin B12 in five females aged 37, 32, 62, 29, and 21 years, respectively. The eruption appeared from 1 week to 5 months after the beginning of the therapy with i.m. or oral vitamin B12. Clinical picture was characterized by papules and pustules located on the face. In three patients, similar lesions were also present on the neck, shoulders, chest, and upper portion of the back. Comedones and cysts were absent. In two patients, serum vitamin B12 levels were very high. Histopathologic examination in one patient revealed an eosinophilic folliculitis. Spontaneous and complete remission was observed in all patients 3-6 weeks after vitamin B12 discontinuation.

Why Topical Retinoids Are Mainstay of Therapy for Acne. Leyden J, Stein-Gold L, Weiss J. Dermatol Ther (Heidelb). 2017 Jun 5. doi: 10.1007/s13555-017-0185-2. [Epub ahead of print] https://link.springer.com/article/10.1007%2Fs13555-017-0185-2

Acne-focused dermatology expert groups have consistently recommended that most patients with acne be treated with a combination of topical retinoid and antimicrobial therapy. This is based on clinical data as well as evidence that these drug classes have different and complementary mechanisms of action that target multiple aspects of acne's complex pathophysiology. Recent evidence-based guidelines for acne, including those from the American Academy of Dermatology (AAD) and the European Dermatology Forum (EDF), have agreed that retinoids have an essential role in this widespread disease. The AAD states "retinoids are the core of topical therapy for acne because they are comedolytic, resolve the precursor microcomedone lesion, and are anti-inflammatory;" further, they "allow for maintenance of clearance." Despite uniform recommendation for use of topical retinoids, a recent study of prescribing practices from 2012 to 2014 indicated that dermatologists prescribed retinoids just 58.8% of the time while non-dermatologists prescribed them for only 32.4% of cases. In this article, we review the reasons supporting retinoids as the mainstay of acne therapy and discuss some of the perceived barriers that may be limiting use of this important drug class. Further, we discuss how and when titrating retinoid concentrations may be utilized in clinical practice.

Endocrine disorders and hormonal therapy for adolescent acne. Nguyen HL, Tollefson MM. Curr Opin Pediatr. 2017 May 27. doi: 10.1097/MOP.0000000000000515. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28562419

PURPOSE OF REVIEW: Acne vulgaris is a global disease with increasing prevalence in adolescents. It has a profound impact on their quality of life, especially when endocrine disorders are also involved. Recent concerns regarding antibiotic stewardship, failures with antibiotic usage, and the development of antibiotic-resistant Propionibacterium acnes have led clinicians to consider other therapeutic options for acne treatment. The present review explores hormonal therapies for the treatment of acne vulgaris. RECENT FINDINGS: There are now four different combined oral contraceptive pills that are FDA approved for the treatment of acne since its first introduction in 1960. Recent literature has provided more information on the efficacy of different generations of combined oral contraceptive pills, their side-effects, and cancer risks. Furthermore, spironolactone has been gaining wider use among dermatologists in adolescents with endocrine dysfunction. New diagnostic guidelines and treatment recommendations have also been suggested. SUMMARY: Hormonal therapies are effective and well tolerated options for the treatment of acne vulgaris in adolescents with and without endocrine disorders. They can be used as monotherapy or in conjunction with benzoyl peroxide, topical retinoic acid, or antibiotics.

Potential of IL-1, IL-18 and Inflammasome Inhibition for the Treatment of Inflammatory Skin Diseases. Fenini G, Contassot E, French LE. Front Pharmacol. 2017 May 22;8:278. doi: 10.3389/fphar.2017.00278. eCollection 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5438978/

In 2002, intracellular protein complexes known as the inflammasomes were discovered and were shown to have a crucial role in the sensing of intracellular pathogen- and danger-associated molecular patterns (PAMPs and DAMPs). Activation of the inflammasomes results in the processing and subsequent secretion of the pro-inflammatory cytokines IL-1β and IL-18. Several autoinflammatory disorders such as cryopyrin-associated periodic syndromes and Familial Mediterranean Fever have been associated with mutations of genes encoding inflammasome components. Moreover, the importance of IL-1 has been reported for an increasing number of autoinflammatory skin diseases including but not limited to deficiency of IL-1 receptor antagonist, mevalonate kinase deficiency and PAPA syndrome. Recent findings have revealed that excessive IL-1 release induced by harmful stimuli likely contributes to the pathogenesis of common dermatological diseases such as acne vulgaris or seborrheic dermatitis. A key pathogenic feature of these diseases is IL-1β-induced neutrophil recruitment to the skin. IL-1β blockade may therefore represent a promising therapeutic approach. Several case reports and clinical trials have demonstrated the efficacy of IL-1 inhibition in the treatment of these skin disorders. Next to the recombinant IL-1 receptor antagonist (IL-1Ra) Anakinra and the soluble decoy Rilonacept, the anti-IL-1α monoclonal antibody MABp1 and anti-IL-1β Canakinumab but also Gevokizumab, LY2189102 and P2D7KK, offer valid alternatives to target IL-1. Although less thoroughly investigated, an involvement of IL-18 in the development of cutaneous inflammatory disorders is also suspected. The present review describes the role of IL-1 in diseases with skin involvement and gives an overview of the relevant studies discussing the therapeutic potential of modulating the secretion and activity of IL-1 and IL-18 in such diseases.

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ASDS Guidelines Task Force: Consensus Recommendations Regarding the Safety of Lasers, Dermabrasion, Chemical Peels, Energy Devices, and Skin Surgery During and After Isotretinoin Use. Waldman A, Bolotin D, Arndt KA, et al. Dermatol Surg. 2017 May 10. doi: 10.1097/DSS.0000000000001166. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/28498204

BACKGROUND: Currently, the isotretinoin (13-cis-retinoic acid) package insert contains language advising the discontinuation of isotretinoin for 6 months before performing cosmetic procedures, including waxing, dermabrasion, chemical peels, laser procedures, or incisional and excisional cold-steel surgery. It is common practice to follow this standard because of concerns regarding reports of sporadic adverse events and increased risk of scarring. OBJECTIVE: To develop expert consensus regarding the safety of skin procedures, including resurfacing, energy device treatments, and incisional and excisional procedures, in the setting of concurrent or recent isotretinoin use. MATERIALS AND METHODS: The American Society for Dermatologic Surgery authorized a task force of content experts to review the evidence and provide guidance. First, data were extracted from the literature. This was followed by a clinical question review, a consensus Delphi process, and validation of the results by peer review. RESULTS: The task force concluded that there is insufficient evidence to justify delaying treatment with superficial chemical peels and nonablative lasers, including hair removal lasers and lights, vascular lasers, and nonablative fractional devices for patients currently or recently exposed to isotretinoin. Superficial and focal dermabrasion may also be safe when performed by a well-trained clinician.

Some data support botulinum toxin for psoriasis and rosacea. By: Michele G. Sullivan. Publish date: May 1, 2017. http://www.mdedge.com/edermatologynews/article/136981/psoriasis/some-data-support-botulinum-toxin-psoriasis-and-rosacea?channel=291

EXPERT ANALYSIS FROM AAD 17, ORLANDO – Botulinum toxin may have a place in treating psoriasis and rosacea. There is not a huge body of literature supporting the use of neuromodulators for these conditions, but a smattering of case reports have shown positive results and some clinicians are exploring their off label use, Erin Gilbert, MD, said at the annual meeting of the American Academy of Dermatology. “I do believe that there is significant promise here and certainly enough evidence to warrant conducting well-designed randomized, controlled trials for these conditions,” said Dr. Gilbert, a dermatologist in Brooklyn, NY. “It is of utmost importance that we pair clinical outcome measures with methods that will help us better understand the mechanism of action of neuromodulators in human skin, such as skin biopsy.” Dr. Gilbert acknowledged that these treatments are expensive and cannot, in the case of psoriasis, be used in disseminated disease. However, she said that, for many patients, the relief is so profound and the benefit so long-lasting, that the expense is worth it. An argument in favor of this approach is that, where effective, BoNT-A could be used as a steroid-sparing agent and one that might reduce the need for systemic therapies.

Medical and Surgical Treatment of Hidradenitis Suppurativa: A Review. Scuderi N, Monfrecola A, Dessy LA, et al. Skin Appendage Disord. 2017 May;3(2):95-110. doi: 10.1159/000462979. Epub 2017 Mar 21. https://www.karger.com/Article/FullText/462979

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease presenting with painful nodules, abscesses, sinus tracts, and scarring primarily affecting apocrine gland-rich intertriginous areas. HS prevalence ranges from 0.05 to 1%. The central pathogenic event in HS is believed to be the occlusion of the upper part of the folliculopilosebaceous unit, leading to the rupture of the sebofollicular canal with the consequent development of

perifollicular lymphohistiocytic inflammation. The HS treatment choices are influenced by disease severity and its individual subjective impact, involving both medical and surgical interventions. However, given the chronic nature of HS, its destructive impact on social, working, and daily life of patients, its management is often frustrating for both the patient and physician. Hence, prompt and effective management strategies are urgently needed and a multidisciplinary approach is advocated. Therefore, in this article, we highlighted the main features of HS (clinical aspects, epidemiology, pathogenesis, diagnostic criteria, classifications, comorbidities, and treatments), so that awareness of this disease might be heightened in primary care physicians and surgeons, who may be the first health care providers to see patients with this disease owing to its characteristic clinical presentation (inflammatory nodules, abscesses, sinus tract, etc.).

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Spironolactone for the treatment of acne in women, a retrospective study of 110 patients. Charny JW, Choi JK, James WD. Int J Womens Dermatol. 2017 Mar 13;3(2):111-115. doi: 10.1016/j.ijwd.2016.12.002. eCollection 2017 Jun. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5440451/

BACKGROUND: There is limited evidence on the safety and efficacy of spironolactone in the treatment of women with acne. Thus, for many dermatologists spironolactone remains an alternative rather than a mainstay treatment for female patients with acne. METHODS: An electronic medical records search tool was used to select data from a group of women who received spironolactone to treat acne and were evaluated with the comprehensive acne severity scale (CASS) before treatment and at all follow-up visits. Data points were collected for CASS scores at each follow-up visit, concurrent and previous treatments, and side effects. These data points were used to draw conclusions about the safety and efficacy of spironolactone in this patient population. RESULTS: There were 110 patients that met all eligibility requirements. Of these, 94 patients saw an improvement in their CASS score and 61 patients completely cleared their score to 0. There were 16 patients who did not improve and six who relapsed after initial improvement. The women saw an average improvement in their acne by 73.1% for the face, 75.9% for the chest, and 77.6% for the back. Fifty-one women experienced side effects, but only six found them bothersome enough to stop taking spironolactone. CONCLUSION: A majority of women in this study saw a dramatic improvement in their acne while treated with spironolactone. There were low rates of relapse or discontinuation of the medication. To further promote the use of spironolactone as a first-line systemic treatment for women with acne, there must be more prospective controlled trials.

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Patient Counseling/Communication

Teen acne treatment: Solving the pimple problem. By Dr. Manny Alvarez. Published May 05, 2017. Fox News. http://www.foxnews.com/health/2017/05/05/teen-acne-treatment-solving-pimple-problem.html

When dealing with this acne problem, teens may feel self-conscious and even hopeless because of their appearance. With the ever-increasing emphasis our teens place on appearance, acne could prove to be a major source of stress. When dealing with this acne problem, they often feel self-conscious and even hopeless because of their appearance. With a few lifestyle changes and acne treatments, however, they can enjoy clear skin again. Currently, acne affects up to 50 million people in the United States every year, and 85 percent are between ages

12—24. Because acne does affect a person's appearance, many teens suffer anxiety, frustration, and social withdrawal due to the skin condition. Among the various pressures that teens face every day, they should not have to live with uncontrolled acne. These teens can opt for several over-the-counter treatments common on Amazon. They can also reduce instigating lifestyle factors and talk with a doctor about trying alternatives. After several months of regular care, these teens should show more self-confidence and take pride in their skin again.

Acne, rosacea prescriptions cost more when prescribed by dermatologists. By: Amy Karon. Publish date: April 29, 2017. http://www.mdedge.com/edermatologynews/article/136884/practice-management/acne-rosacea-prescriptions-cost-more-when?channel=291

At SID 2017, PORTLAND, ORE. – Dermatologists have plenty of room to improve when it comes to choosing cost-effective medications for acne or rosacea, based on the results of a large retrospective analysis of Medicare claims data. Patients with acne or rosacea consistently paid more for topical retinoids, topical antibiotics, and oral tetracyclines when the prescriber was a dermatologist instead of a family or internal medicine physician, Myron Zhang reported at the annual meeting of the Society for Investigative Dermatology. The difference amounted to $3-$4 million per year in the Medicare population alone, which comprises just 5%-6% of all recipients of prescriptions for acne and rosacea, he added. "There is a large potential for reducing expenditures on health care for patients with acne and rosacea by choosing more generics and less expensive options within drug classes," said Mr. Zhang, a medical student at the Ohio State University, Columbus, who conducted the study with colleagues there and at Northwestern University in Chicago.

Video. Coping with acne: Woman video blogs skin transformation. 16 Mar 2017. BBC News. http://www.bbc.com/news/av/health-39288920/coping-with-acne-woman-video-blogs-skin-transformation

Video blogger Katie Snooks, who posted videos about her acne treatment online, investigates how other people cope with the skin disease.

Video. Cosmetic Treatments for Skin of Color: Report From the AAD Meeting. Seemal R. Desai, MD. March 10, 2017. Cutis. http://www.mdedge.com/cutis/article/133200/aesthetic-dermatology/cosmetic-treatments-skin-color-report-aad-meeting?channel=171&utm_source=Clin_Cut_sf-Acne_060117&utm_medium=email&utm_content=PDT%20for%20acne:%20Seemal%20Desai%20discusses%20the%20benefits%20in%20skin%20of%20color%20patients

In the following video from the 75th Annual Meeting of the American Academy of Dermatology, Dr. Seemal R. Desai spoke about cosmetic treatment options for various disease states in patients with skin of color. Dr. Desai discussed using laser therapy and chemical peels in conjunction with topical treatments for melasma. He also noted that intense pulsed light may be a good option for lightening freckles and other pigmented areas in darker-skinned patients. Finally, he explained that acne in patients with skin of color can be treated with photodynamic therapy as an alternative to UV light, as it is not known to cause worsening of hypopigmentation.