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AARS News

AARS and New Beauty Partner to Raise Awareness for Acne and Rosacea Patients to Demand an Individualized Treatment Approach

In an effort to showcase more acne and rosacea education for our patients, the AARS and New Beauty magazine have teamed up! We will be launching more content for National Acne Awareness Month in June, but in case you missed it – take a look at what we have done so far with 'AARS Is At the Forefront of Dermatology' campaigns. AARS featured ads in the New Beauty annual Spring Issue and will be posting more awareness articles and eblasts to patients in the future. New Beauty is distributed out of physician's office and is seen by an audience of 2.6 million people. Check out what we've done so far: https://www.newbeauty.com/tag/american-acne-and-rosacea-society/

Industry News

Accure laser gets CE mark for acne treatment. May 7, 2020. DermWire, Practical Dermatology. https://practicaldermatology.com/news/accure-laser-gets-ce-mark-for-acne-treatment?c4src=news:feed

Accure Acne, Inc. now has a European CE mark for its groundbreaking Accure Laser™ system to treat patients with moderate acne vulgaris. The Accure Laser is the first commercially-developed light-based platform in the world to selectively target and injure sebaceous glands. Founded in 2015, Accure is wholly focused on the elimination of acne through innovative and disruptive non-systemic solutions. Recent studies have also shown a significant link between acne and depression, as well as anxiety. "This achievement represents the culmination from two decades of clinical research led by The Wellman Center for Photomedicine at Massachusetts General Hospital," notes Christopher Carlton, Chairman, Chief Executive Officer, and co-Founder of Accure. "This milestone brings an impactful solution to millions of acne sufferers in Europe." Accure's clinical and technical development teams represent an unmatched collaboration of engineering acumen and clinical expertise, led by Prof. Rox Anderson, MD, co-Founder of Accure. Preliminary clinical data from Accure's on-going IRB-approved Face Trial demonstrates a reduction of more than 80 percent in inflammatory lesions at three months after treatment. Accure has compiled hundreds of in vivo human skin histology samples depicting a significant effect on sebaceous glands. Dr. Emil Tanghetti, a principal investigator of the Accure Laser, states, "I am impressed with Accure's safety-first, data-driven approach. The clinical results thus far are exciting, and the uniqueness of the proprietary temperature and operator feedback control systems makes this much more than just a new laser wavelength. I look forward to on-going advances with this platform." Accure is partnered with Quanta System, S.p.A (El.En. Group), based in Milan. Quanta has contributed substantial resources and expertise to the development of the Accure Laser and will be the exclusive manufacturing partner of Accure as commercial activities accelerate. The laser platform has been designed with highly unique and innovative technology, resulting in over 14 granted, pending, and provisional patents issued to Accure through exclusive global licenses. The Accure Laser is the first commercial product to be released by Accure in Europe, available in the second half of 2020 in several key markets.

New Medical Research

Development and evaluation of azelaic acid-loaded microemulsion for transfollicular drug delivery through guinea pig skin: A mechanistic study. Salimi A, Sharif Makhmal Zadeh B, Godazgari S, Rahdar A. Adv Pharm Bull. 2020 Jun;10(2):239-246. doi: 10.34172/apb.2020.028. Epub 2020 Feb 18. https://www.ncbi.nlm.nih.gov/pubmed/32373492

Purpose: Azelaic acid is a natural keratolytic, comedolytic, and antibacterial drug that is used to treat acne. The topical application of azelaic acid is associated with problems such as irritation and low permeability. For dissolving, the problem is that microemulsion (ME) is used as a drug carrier. The aim of this study was to increase the azelaic acid affinity in the follicular pathway through ME. Methods: Azelaic acid-loaded MEs were prepared by the water titration method. The properties of the MEs included formulation stability, particle size, drug release profile, thermal behavior of MEs, the diffusion coefficient of the MEs and skin permeability in the non-hairy ear skin and hairy abdominal skin of guinea pig were studied in situ. Results: The MEs demonstrated a mean droplet size between 5 to 150 nm. In the higher ratios of surfactant/co-surfactant, a more extensive ME zone was found. All MEs increased the azelaic acid flux through both hairy and non-hairy skin compared with an aqueous solution of azelaic acid as a control. This effect of the ME was mainly dependent on the droplet diffusion coefficient and hydrodynamic radius. MEs with a higher diffusion coefficient demonstrated higher azelaic acid flux through hairy and non-hairy skin. Drug flux through both skins was affected by the surfactant/co-surfactant ratio in that the higher ratio increased the azelaic acid affinity into the follicular pathway. Conclusion: Finally, the ME with the highest droplet diffusion coefficient and the lowest surfactant/co-surfactant ratio was the best ME for azelaic acid delivery into the follicular pathway.

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Improved telangiectasia and reduced recurrence rate of rosacea after treatment with 540 nm-wavelength intense pulsed light: A prospective randomized controlled trial with a 2-year follow-up. Luo Y, Luan XL, Zhang JH, et al. Exp Ther Med. 2020 Jun;19(6):3543-3550. doi: 10.3892/etm.2020.8617. Epub 2020 Mar 20. https://www.ncbi.nlm.nih.gov/pubmed/32346416

The aim of the present study was to evaluate the clinical efficacy and safety of 540 nm-wavelength intense pulsed light (IPL) for the treatment of telangiectasia in late-stage rosacea. Between July 2013 and January 2016, patients with rosacea who tested positive for Demodex folliculorum were recruited. Patients received anti-mite therapy and were then randomly apportioned to receive either three 540 nm-IPL treatments at 4-week intervals (IPL group), or no treatment (control group). Telangiectasia was assessed by the same clinician at baseline and at follow-up intervals over 2 years, where ≥90% clearance of telangiectasia was considered to indicate effective treatment. The rates of effective treatment, improvement (≥30% clearance) and recurrence (original or neo-location) were compared in both groups. After 33 patients were lost during follow-up, the IPL and control groups were comprised of 107 and 120 patients for the final analysis, respectively. The rates of effective treatment and total efficacy in the IPL group (66.36 and 95.33%, respectively) were found to be significantly higher compared with those of the control group (0 and 30.83%, respectively). By contrast, the rates of recurrence were found to be lower in the IPL group (8.41%) compared with the control group (48.33%). Redness-to-blisters associated with IPL treatment (9.7% of analyzed patients) subsided within one week and hyperpigmentation (1.9%) within 3 months. To conclude, treatment with 540 nm-IPL improved facial telangiectasia in late-stage rosacea that remained after sequential anti-mite therapy and effectively reduced the recurrence of rosacea. The present study was registered into the Chinese Clinical Trial Registry under the title 'Sequential therapy for mites folliculitis' (Trial registration number: ChiCTR-IPR-15006451; approved May 27, 2015).

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Prospective and randomized comparative study of calcium hydroxylapatite versus calcium hydroxylapatite plus HIFU in treatment of moderate to severe acne scars. Araco A, Araco F. J Cosmet Dermatol. 2020 May 9. doi: 10.1111/jocd.13472. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32385943

Background: Acne scars are the most common sequelae of the severe inflammatory process of acne and its managing is a challenge. Objective of this study was to assess safety and effectiveness of calcium hydroxylapatite monotherapy and its association with high intensity microfocused ultrasound for treating moderate-to-severe atrophic acne scars. Methods: Women with moderate to severe atrophic scars of the face were enrolled on the study. Assessments were made by digital macro-photographs, Vectra H2, Antera 3D. Results: From October to December 2019, twenty women which fitted the inclusion criteria signed a consent form and received 3.0 ml of calcium hydroxylapatite and after 4 weeks, 400 lines of HIFU. No major side effects were reported during the study and all patients completed the follow-up after 6 months. At 1 month, patients treated with calcium hydroxylapatite (group 1) improved wrinkles and skin texture compared to placebo (group 2). At 3 and 6 months, all patients improved acne scars. Conclusion: Our study showed that that both calcium hydroxylapatite and HIFU in monotherapy were safe and effective treatments for atrophic scar acne. Calcium hydroxylapatite was clinically effective when compared with placebo, though the combination of calcium hydroxylapatite and HIFU did not enhance the clinical efficacy compared to monotherapy.

High-frequency ultrasonography and scoring of acne at 20 MHz and 50 MHz. Wang J, Luo Y, Liu J, et al. J Eur Acad Dermatol Venereol. 2020 May 5. doi: 10.1111/jdv.16584. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32372443

Effective management of acne vulgaris requires accurate assessment. High-frequency ultrasonography (HF-USG) provides an objective and non-invasive evaluation in comparison with naked-eye evaluation or pathological examination. To explore the ultrasonographic features of acne vulgaris and assess the role of HF-USG in the classification of acne. a prospective study was performed in acne patients in the period of August to November 2019. This study was approved by the Medical Ethics Committee of Perking Union Medical College Hospital. The inclusion criteria were lacking topical treatment for one month and systemic therapy for six months before the consultation. The patients were clinically classified in their severity by two experienced dermatologists independently. The severest lesion of each patient examined by HF-USG at 20 MHz and 50 MHz, and then evaluated by two physicians. Statistical analysis used Chi-square and Kappa tests and significance was set at $p < 0.01$.

Modified 5-aminolevulinic acid photodynamic therapy to reduce pain in the treatment of moderate to severe acne vulgaris: A prospective, randomized split-face study. Zhang Y, Zhang H, Zhang L, et al. J Am Acad Dermatol. 2020 May 3. pii: S0190-9622(20)30768-4. doi: 10.1016/j.jaad.2020.04.146. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32376429

To the Editor: 5-aminolevulinic acid photodynamic therapy (ALA-PDT) demonstrates better curative effects with lower recurrence rates and fewer side effects than oral isotretinoin in the treatment of moderate and severe acne. As pain is a major concern associated with conventional photodynamic therapy (C-PDT), more effective solutions are needed. In a preliminary study where we attempted to treat acne using modified PDT (M-PDT) by reducing the incubation time of ALA and increasing the light dose, we found the method had therapeutic effects and reduced pain. Therefore, this study was designed to further explore and evaluate M-PDT effectiveness through a randomized split-face clinical trial. Twenty-two patients were recruited for the study and all the patients were divided into two groups: one group receiving C-PDT where ALA cream (5%) was applied for 90 minutes before being exposed to red LED light (50 J/cm2) and the other group receiving M-PDT where ALA cream (5%) was applied for 30 minutes before being exposed to red LED light (150 J/cm2). The baseline characteristics didn't differ between the treatment arms. Treatments were administered three times at one-week interval and patients were followed up for four weeks. The decrease in lesion severity, pain,

and adverse events were evaluated during and after the treatment. Two patients withdrew from the study after completing the first treatment, whereas the remaining 20 patients completed the last treatment and follow-up. Four weeks after the last treatment, the average clearance rates of the total lesions, inflammatory lesions, non-inflammatory lesions, and Investigator's Global Assessment (IGA) grading in the C-PDT and M-PDT groups were 77.8±15.5%, 82.3±16.3%, 67.9±19.5%, 1.1±0.9 and 76.2±16.0%, 82.4±17.6%, 61.3±25.8%, 1.3±1.1, respectively ($p>0.05$). The patients in the M-PDT group experienced no pain to mild pain (mean score: 0.7±0.8, score range: 0-2) with an average duration of 2.5±1.0 days after each treatment. The patients in the C-PDT group experienced more pain (mean score: 3.7±1.2, score range: 3-7) with an average duration of 3.3±1.0 days after each treatment. The M-PDT group had significantly lower pain and shorter duration than the C-PDT group ($p<0.05$) (Table I and Figure 1). Additionally, different degrees of dryness, pruritus, scales, and other discomfort were reported in both groups with general tolerability and no statistical significance. No obvious pigmentation or scars were observed. The findings indicated that an effective adjustment of the treatment parameters, including drug application time and light dose application, might affect the cumulative amount of protoporphyrin IX (PpIX), the most important factor in PDT-related pain. During M-PDT, the cumulative amount of PpIX was decreased and the irradiation time was increased to produce the same clinical effect without pain. Nevertheless, the specific mechanism remains unclear and needs further research. In conclusion, M-PDT results in nearly painless treatment without affecting the therapeutic effect, which presents a new way of approaching PDT. Further large-scale clinical studies are needed to validate our findings.
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Topographic computer analysis for acne scar treatment on face accompanying biopsy study after dermal injection of hydrotoxin mixture. Kim J1. J Cosmet Dermatol. 2020 May 2. doi: 10.1111/jocd.13462. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32359014

Background: Acne during youth can leave permanent facial scarring. The depressed acne scars can be treated by injection of stabilized hyaluronic acid (S-HA) into the dermis. Due to the large number of acne scars, manual injection methods are technically difficult, and bear high risk of lump formation in the dermis. Therefore, the author designed a specific injection method to solve the two abovementioned problems. Materials/methods: 102 Patients who suffered from acne scars were treated with a mixture of S-HA (Restylane Vital®) and abobotulinumtoxinA (Dysport®). Using an automatic injector, microdroplets of the mixture (0.001cc of S-HA and 0.125 U abobotulinumtoxinA) were delivered into 1000 intradermal sites on whole face except eyelids. This instrument radically reduced injection amounts per site (0.001cc), lessened manual operator efforts, and ensured consistent injection depth (from 0.8mm to 1.2mm depending on individual dermal thickness) into the facial dermis. The changes in each depression site of acne scars were evaluated by topographical computer analysis (point-roughness), based on the 40 magnification microscopic photos generated. Depth measurements of each small acne scar point were taken one by one at the exact same point before and after the treatments. Global Aesthetic Improvement Scale (GAIS) was measured for improvement of acne scars at 1 and 6 months post-treatment. Additionally, serial histologic examinations of the biopsy specimens evaluated neocollagenesis, neoelastinogenesis, and longevity state of the S-HA. Results: 78 patients showed improvements of depressed acne scars in physical examinations, medical photos, and dermascopic photos. Using topographic computer analysis, the average point-roughness decreased 27.48 % (at 1-month) from 29.042±6.85 (baseline) to 21.05±6.30 μm ($P<0.0001$), corresponding with scar improvements observed in physical examinations, and 3.02±0.66 of GAIS at 1-month post-treatment. Using an injector allowed the hydrotoxin mixture into the deep dermal layer. Biopsy study proved that the injection depth was exactly in the dermis, and showed evidence of neocollagenesis and neoelastinogenesis. Also the S-HA particles remained after 1 year, which proved its longevity of at least 1 year. Conclusion: The topographic computer analysis using point-roughness showed improvement of all subtype acne scars at 1-month post-treatment. The improvement may have resulted from dermal expansion due to the neocollagenesis and neoelastinogenesis. S-HA lasted more than 1 year in human dermis.

Treatment-seeking behavior, knowledge and beliefs about acne vulgaris among adolescents: A cross-sectional study in high school students in Tirana, Albania. Savo I, Jorgaqi E, Vasili E, et al. Dermatol Ther. 2020 May 2. doi: 10.1111/dth.13500. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32362067

Acne vulgaris is a common adolescents' disorder. Nevertheless, there is lack of knowledge about acne among adolescents. To evaluate the adolescents' knowledge and beliefs about acne, to investigate help-seeking behavior and treatment preferences. A cross-sectional study conducted in 10 public high schools in Tirana. A total of 2036 students enrolled. All participants were asked about socio-demographic data, knowledge and beliefs about acne, treatment seeking behaviors and clinical preferences. 45.3% of participants thought acne is a medical problem, 23,1% thought it's a cosmetic problem, and less than 10% thought acne is a normal condition for their age. 30% of adolescents didn't know that acne is not contagious. 49.7% believed acne is curable with prescribed medication, 33.4% thought acne heals by itself, and only 0.9% believed acne is non-curable. Male adolescents were more likely to have lower level of knowledge and misconceptions about acne comparing to females. Only 18.5 % had consulted a dermatologist. The majority (54.7%) were using anti-acne products recommended by their friends or pharmacists. Only minority of Albanian adolescents with acne consults a dermatologist. Age, gender and acne severity play a significant role in determining help-seeking behavior. Patient and parent education can significantly improve the treatment outcome.

Download Reference Document

Observation for clinical effect of acupuncture combined with conventional therapy in the treatment of acne vulgaris. Kou L, Yu N, Ren J, et al. Medicine (Baltimore). 2020 May;99(18):e19764. doi: 10.1097/MD.0000000000019764. https://www.ncbi.nlm.nih.gov/pubmed/32358349

Introduction: Acne vulgaris is a chronic inflammatory disease of the sebaceous glands that occurs in adolescent men and women. In recent years, the incidence of acne has increased year by year, so it is of great significance to find a precise and effective treatment and further explore its possible mechanism of action. The purpose of this study will be to explore a treatment method that has both traditional Chinese medicine characteristics and significant effects and provides a higher level of evidence for acupuncture for acne vulgaris. It also provides patients with more treatment options. Methods/design: The study will be a randomized controlled trial divided into 2 parallel groups. This pragmatic randomized controlled trial will recruit 66 patients who are diagnosed with acne vulgaris. 30-minutes acupuncture sessions will be provided to patients assigned to the intervention group. All participants will continue to receive conventional treatment. The selection of outcomes will be evaluated by the skin lesions score scale. Discussion: This trial may provide evidence regarding the clinical effectiveness, safety, and cost-effectiveness of acupuncture for patients with acne vulgaris. Trial registration number: CTR2000030427.

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Antibacterial PEGylated solid lipid microparticles for cosmeceutical purpose: Formulation, characterization, and efficacy evaluation. Angellotti G, Murgia D, Presentato A, et al. Materials (Basel). 2020 Apr 30;13(9). pii: E2073. doi: 10.3390/ma13092073. https://www.ncbi.nlm.nih.gov/pubmed/32365956

The development of efficacious means of delivering antioxidant polyphenols from natural sources for the treatment of skin diseases is of great interest for many cosmetic and pharmaceutical companies. Resveratrol (RSV) and Limonene (LIM) have been shown to possess good anti-inflammatory and antibacterial properties against Staphylococcus aureus infections responsible for many skin disorders, such as acne vulgaris. In this study, solid lipid microparticles are designed as composite vehicles capable of encapsulating a high amount of trans-RSV and enhancing its absorption through the stratum corneum. A microparticulate system based on mixture of PEGylate lipids, long-chain alcohols and LIM is able to entrap RSV in an amorphous state, increasing its half-life and avoiding inactivation due to

isomerization phenomena, which represents the main drawback in topical formulations. Particles have been characterized in term of shape, size distribution and drug loading. Antimicrobial tests against S. aureus have highlighted that empty microspheres possess per se antimicrobial activity, which is enhanced by the presence of LIM, demonstrating that they can represent an interesting bactericide vehicle for RSV administration on the skin.
Download Reference Document

Evaluation of hidradenitis suppurativa disease course during pregnancy and postpartum. Lyons AB, Peacock A, McKenzie SA, et al. JAMA Dermatol. 2020 Apr 29. doi: 10.1001/jamadermatol.2020.0777. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32347884
Importance: Hidradenitis suppurativa (HS) disproportionately affects women of childbearing potential. There is a paucity of data regarding the HS disease course during pregnancy and in the postpartum period.
Objective: To explore the HS disease course during pregnancy and in the postpartum period. Design, setting, and participants: A retrospective cohort study was conducted on patients in the Henry Ford Health System, Detroit, Michigan-a large, academic, urban referral center. Women with a diagnosis of HS who became pregnant between January 1, 2008, and December 31, 2018, were included. International Classification of Diseases, Ninth Revision, and International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, were used for identification of the diagnosis. Exposures: Pregnancy in patients with HS. Main outcomes and measures: Hidradenitis suppurativa disease status during pregnancy and the postpartum period. Results: A total of 127 women with HS were included in this study and accounted for 202 pregnancies. Of the 202 pregnancies, 171 were in black women, 25 in white women, 3 in women of other race/ethnicity, and 3 had unreported data. Mean (SD) age at HS onset was 19.3 (5.6) years; at time of HS diagnosis, 24.4 (5.3) years; and at time of pregnancy, 25.9 (5.0) years. The disease worsened during pregnancy in 70 pregnancies (61.9%), did not change in 34 pregnancies (30.1%), and improved in 9 pregnancies (8.0%). Hidradenitis suppurativa exacerbated in the postpartum period after 82 of 124 pregnancies (66.1%). Dermatologists were involved in managing HS in 28 pregnancies (14.4%) and for a higher proportion of patients with more severe Hurley stage as compared with cases of mild disease (stage 3: 7 of 18 [38.9%] vs stage 1: 10 of 100 [10.0%] or stage 2: 11 of 67 [16.4%]; P = .004). In addition, HS medical treatment was administered during 77 pregnancies (38.1%), while HS procedural treatment was administered during 34 pregnancies (16.8%). A significantly higher proportion of patients whose care was managed by dermatologists vs those without dermatologist involvement received any HS medication (22 [78.6%] vs 53 [31.7%], P < .001) or any HS procedure (14 [50%] vs 19 [11.4%], P < .001) during pregnancy. Conclusions and relevance: Despite a high rate of HS exacerbation during pregnancy and postpartum, this cohort study found that most of the patients did not receive HS-directed medical treatment or care from a dermatologist during pregnancy. Close monitoring and improved collaborative care between dermatology and obstetrics-gynecology services is warranted.
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Inhibition of proinflammatory cytokines in cutibacterium acnes-induced inflammation in HaCaT cells by using buddleja davidii aqueous extract. Nguyen AT, Kim KY. Int J Inflam. 2020 Apr 21;2020:8063289. doi: 10.1155/2020/8063289. eCollection 2020. https://www.ncbi.nlm.nih.gov/pubmed/32373312
Acne is an inflammatory skin disorder; although some anti-inflammatory medicines for treating acne are available in a market, they have considerable side effects; therefore, new treatment options are needed. In the present study, among the 16 aqueous extracts of plants collected from Jeju Island in Korea which are used to test anti-inflammatory activity, B. davidii showed the strong decline of the proinflammatory cytokine expression against the inflammatory process caused by C. acnes in Human HaCaT keratinocyte cells. B. davidii downregulated the expression of 57% of COX-2, 41% of iNOS, and proinflammatory cytokines 29% of TNF-α, 32% of IL-1β, 21% of IL-6, and 35% of IL-8.

Furthermore, B. davidii inhibited NF-κB and MAPK signaling cascades in keratinocytes that activated by toll-like receptor 2 (TLR-2) in response to C. acnes. Given those results, B. davidii is a potential agent to reduce the proinflammatory cytokine expression against C. acnes-induced inflammation and might provide an alternative to the current medications.
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A preliminary clinical evaluation of a topical product for reducing slight rosacea imperfections. Maggioni D, Cimicata A, Praticò A, et al. Clin Cosmet Investig Dermatol. 2020 Apr 21;13:299-308. doi: 10.2147/CCID.S240784. eCollection 2020. https://www.ncbi.nlm.nih.gov/pubmed/32368125
Introduction: Rosacea is a chronic multifactorial skin disorder mainly affecting facial skin with an estimated prevalence of about 5% worldwide. Its main symptoms, occurring early during pathology development, are skin dehydration, redness, erythema, and telangiectasia. Given the lack of a resolutive cure, therapeutic approaches able to relieve the main symptoms are needed. Purpose: The aim of this research article is to evaluate the beneficial effect of a topical product (Serum BK46) on rosacea symptoms. Patients and methods: A monocentric single-arm, non-blinded study was performed to assess the clinical effect of Serum BK46 in relieving the main symptoms of rosacea: skin dryness, increased trans epidermal water loss (TEWL), redness, and abnormal vascularization. Twenty patients with mild to moderate rosacea were enrolled in the study and asked to apply the product twice per day for 56 days. Skin moisturization, TEWL, and erythema index were instrumentally assessed at baseline and following 24 h and 14, 28 and 56 days of treatment. Clinical parameters, including redness and telangiectasia imperfection visibility, were evaluated on a 5-point scale by a specialized dermatologist at baseline and after 14, 28, and 56 days of treatment. Finally, the visibility of vessel diameter was evaluated at baseline and after 28 and 56 days of treatment. Results: Serum BK46 application restored skin hydration and prevented the loss of water by the skin. Long-term treatment with Serum BK46 significantly reduced skin redness, erythema index, and the visibility of telangiectasia imperfections and superficial vessels. The investigated product's clinical effect was demonstrated by both instrumental and clinical evaluation. Furthermore, Serum BK46 was completely tolerated and no adverse effects were recorded. Conclusion: The moisturizing and skin barrier restoring action of Serum BK46 has been clearly proven in patients displaying mild to moderate rosacea; thus, this product is a good candidate for rosacea treatment.
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Clinical Reviews

A retrospective assessment and comparison of the effectiveness of benzoyl peroxide, the combination of topical niacinamide, gallic acid and lauric acid and the combination of benzoyl peroxide and erythromycin in acne vulgaris. Kozan A, Yasak Guner R, Akyol M. Dermatol Ther. 2020 May 10. doi: 10.1111/dth.13534. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32390309
Acne vulgaris is a chronic inflammatory skin disease that mostly develops during adolescence and continues throughout adulthood. It affects the face, the main location of cosmetic appearance. Despite many developments in acne treatment, various combination therapies are needed to create the best option. Ninety patients were included in this study. We used the global acne grading system (GAGS) and the lesion counting and photographic standards that were used by Hayashi et al., to assess acne severity. The patients were randomly divided into 3 groups as Group 1 (using only 5% BPO, twice a day), Group 2 (using only the combination of 5% BPO + 3% erythromycin, twice a day) and Group 3 (using only the combination of 4% niacinamide +1% gallic acid +1% lauric acid, twice a day). 30 patients were included in each group. The scores were evaluated at weeks 0, 2, 4 and 8, and compared with each other. As a result of the study, all three treatment types were found to be effective. The combination of 4% niacinamide +1%

gallic acid +1% lauric acid can be used as an alternative topical treatment for acne vulgaris to prevent resistance against topical antibiotics and the side effects of some other treatments.
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Novel therapeutic approaches and targets for treatment of hidradenitis suppurativa. Giuffrida R, Cannavò SP, Coppola M, Guarneri C. Curr Pharm Biotechnol. 2020 May 4. doi: 10.2174/1389201021666200505100556. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32368973
Background: Hidradenitis suppurativa (HS) is a chronic, recurrent and disabling inflammatory skin condition, clinically characterized by nodules, bullae, abscesses, fistulae, and draining sinus tracts mainly located in axillae, inguinal folds, inframammary region and buttocks, often leading to pain, scarring, disfigurement and decreased quality of life. Due to its complex nature, with still no completely elucidated etiology and pathogenesis, the management of HS can be challenging. In fact, many patients do not respond to the traditionally available systemic treatments, including anti-inflammatories, antibiotics and surgery. Research has provided new insights into the mechanisms of HS, mainly investigating on the inflammatory cytokine pathways underlying the disease. Methods: We review the current knowledge on newer therapeutic approaches and targets for the treatment of HS, through a PubMed-based literature search. Results: In this setting, studies on tumor necrosis factor-α, IL-1β, IL-10, and the IL-23/T-helper (Th) 17 and IL12/Th1 axes in immune dysregulation in HS have helped in developing new regimens. Inhibitor of phosphodiesterase 4 and laser treatments have shown clinically meaningful efficacy with good short-term safety and tolerability. Conclusion: Target therapy has revolutionized the treatment of moderate to severe HS, basing on the inhibition of specific molecular or cellular targets, directly involved in the pathogenesis of the condition.

The pharmacology of antibiotic therapy in hidradenitis suppurativa. Marasca C, Tranchini P, Marino V, et al. Expert Rev Clin Pharmacol. 2020 May 4. doi: 10.1080/17512433.2020.1762571. [Epub ahead of print]
https://www.ncbi.nlm.nih.gov/pubmed/32364806
Introduction: Hidradenitis suppurativa (HS) is a chronic, inflammatory and debilitating skin disease. Several pharmacologic agents have been described to reduce lesion activity and inflammation in HS. In this study, we have reviewed the available antibiotic therapies for HS, analyzing the pharmacologic aspects of these kind of treatments. Areas covered: The role of bacteria, infections and superinfections in HS is still debated and controversial. Antibiotics are recognized as first-line treatments for hidradenitis suppurativa, but the data on their efficacy are limited. Antibiotics should not be replaced by new biological therapies and it is not necessary to make an efficacy classification: it is important for dermatologists to recognize the right patient and the right moment to prescribe an antibiotic therapy, together or in a rotational way with other therapeutic options. Expert Opinion: The HS treatment process for the physicians is often complicated by the disease's severity and several comorbidities. Fortunately, the better understanding of HS pathogenesis has been used to improve treatment strategies. Antibiotic therapy is an effective treatment of patients with HS but probably, in the next five years, many therapeutic options will be available, which will change the way we manage the disease, especially the moderate-to-severe forms of HS.

Intralesional sclerotherapy for the treatment of acne cysts: A case series. Bhattacharjee R, Kumar S, Vinay K, et al. Dermatol Ther. 2020 May 2:e13505. doi: 10.1111/dth.13505. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32359190
Background: Acne cysts are a common dermatological problem that often leads to scarring and a significant negative impact on patients' psyche. Objective: To report the usefulness of intralesional foam sclerotherapy for the treatment of cystic acne. Material and methods: Patients with cystic acne treated with intralesional foam sclerotherapy between June 2018 and May 2019 were identified. Treatment response and adverse effects were assessed during follow-up.

Results: Twelve patients (10 men and 2 women) with cystic acne with a median age of 21 years were treated during the study period. Of these 12 patients, eight (66.7%) showed complete resolution within 48 hours and two (16.7%) experienced complete resolution within 1 week. Two patients failed treatment at the end of the 4-week follow-up. Of the two patients with more than one acne cyst, response was noted only at the treated site. All patients who showed improvement sustained the effects at the 12-week follow-up. No adverse effects were observed and the treated sites healed with good cosmesis and minimal scarring. Conclusions and relevance: Single-session percutaneous polidocanol sclerotherapy is useful for the treatment of acne cysts. Future controlled studies are required to compare the efficacy of intralesional sclerotherapy with intralesional corticosteroids.
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Malignancy and infection risk during adalimumab therapy in hidradenitis suppurativa. Frew JW, Jiang CS, Singh N, et al. Clin Exp Dermatol. 2020 May 1. doi: 10.1111/ced.14264. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32358868
Background: The association of Adalimumab therapy with malignancy and infection is established in other inflammatory diseases, however, rates in HS are based on case reports/ retrospective healthcare data and the effect of Adalimumab therapy on these rates is unknown. Previously reported rates in the PIONEER OLE Phase 3 study only reported on rates in a subpopulation of 88 participants rather than the entire cohort. Aim: To quantify rates of malignancy and serious infection in all Hidradenitis Suppurativa patients treated with 40mg weekly Adalimumab. Methods: Re-analysis was undertaken of Individual patient data from PIONEER 1, PIONEER 2 and PIONEER OLE Phase 3 trial data encompassing 591 unique Hidradenitis Suppurativa patients administered 40mg Adalimumab weekly without concurrent antibiotic exposure. Incidence rates of serious infection and malignancy were calculated. Results: Incidence rates of serious infection are 2.14 per 100 patient years. Incidence rates of malignancy are 0.46 per 100 patient years. Rates of infection and malignancy were comparable to other inflammatory conditions examined. Conclusion and relevance: Incidence of serious infection is comparable to psoriasis and inflammatory arthropathies, however the incidence of malignancy is increased. This may reflect the disease-specific malignancy risk rather than the effect of Adalimumab.

Current issues in the treatment of acne vulgaris. Habeshian KA, Cohen BA. Pediatrics. 2020 May;145(Suppl 2):S225-S230. doi: 10.1542/peds.2019-2056L. https://www.ncbi.nlm.nih.gov/pubmed/32358215
Acne vulgaris is an extraordinarily common skin condition in adolescents. The mainstays of acne treatment have remained largely unchanged over recent years. In the context of increasing antibiotic resistance worldwide, there is a global movement away from antibiotic monotherapy toward their more restrictive use. Classically reserved for nodulocystic acne, isotretinoin has become the drug of choice by dermatologists for moderate to severe acne. Given the virtually ubiquitous nature of acne in teenagers, there remains an appreciable need for novel therapies. In this article, we will cover the currently used acne treatments, evaluate the issues and data supporting their use, explore the issues of compliance and the mental health implications of acne care, and recommend directions for the field of acne management in adolescents in the years ahead.
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Imaging features in patients with SAPHO/CRMO: A pictorial review. Himuro H, Kurata S, Nagata S, et al. Jpn J Radiol. 2020 Apr 30. doi: 10.1007/s11604-020-00953-1. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32356235
Synovitis, acne, pustulosis, hyperostosis, and osteitis (SAPHO) syndrome and chronic recurrent multifocal osteomyelitis (CRMO) have been described as disorders of chronic osteoarthritic inflammation frequently associated

with skin manifestations, and SAPHO and CRMO (SAPHO/CRMO) are rare autoinflammatory disorders of unknown etiology. SAPHO tends to occur in adults and CRMO predominantly occurs in children and adolescents. SAPHO/CRMO can affect any skeletal region (e.g., anterior chest wall, spine, or long bones). As SAPHO/CRMO are diagnoses of exclusion, the diagnoses might be difficult if skin manifestations are not clearly evident. However, knowledge of the imaging findings of skeletal disorders is helpful for correcting the diagnosis and avoiding unnecessary invasive procedures, as well as in facilitating early diagnosis and adequate treatment. This pictorial review describes the appearance of increased skeletal uptake for SAPHO/CRMO on bone scintigraphy along with findings from radiography, computed tomography, and magnetic resonance imaging.

Use of beta-blockers for rosacea-associated facial erythema and flushing: A systematic review and update on proposed mode of action. Logger JGM, Olydam JI, Driessen RJB. J Am Acad Dermatol. 2020 Apr 29. pii: S0190-9622(20)30750-7. doi: 10.1016/j.jaad.2020.04.129. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32360760

Background: Flushing and erythema are frequent skin symptoms in rosacea. As their adequate treatment remains a clinical challenge, new treatment options are explored, such as oral β-blockers. Objective: To evaluate the efficacy of oral β-blockers for rosacea-associated facial flushing and erythema. Methods: PubMed, EMBASE, Web of Science, and Cochrane Library were systematically searched, including studies providing original data on the efficacy of oral β-blockers in rosacea patients with facial flushing and/or persistent erythema. Risk of bias was assessed using the Cochrane Risk of Bias tool, Newcastle-Ottawa scale, and Quality in Prognosis Studies tool. Results: Nine studies evaluating the use of carvedilol, propranolol, nadolol, and β-blockers in general were included. Articles studying carvedilol and propranolol showed a large reduction of erythema and flushing during treatment with a rapid onset of symptom control. Bradycardia and hypotension were the most commonly described adverse events. Limitations: Most studies had a retrospective design with a small sample size, and outcome measurement was often subjective. Conclusion: Oral β-blockers could be an effective treatment option for rosacea patients with facial erythema and flushing that does not respond to conventional therapy. Larger prospective trials with objective outcome assessment are needed to validate the promising results of these studies.

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Association between rosacea and cardiometabolic disease: A systematic review and meta-analysis. Chen Q, Shi X, Tang Y, et al. J Am Acad Dermatol. 2020 Apr 28. pii: S0190-9622(20)30729-5. doi: 10.1016/j.jaad.2020.04.113. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/32360724

Background: Rosacea is recognized as a chronic inflammatory cutaneous disorder associated with multiple systemic illnesses. However, the association between rosacea and cardiometabolic disease (CMD) remains controversial. Objective: To evaluate the association between rosacea and CMD by a systematic review and meta-analysis. Methods: A comprehensive search of studies published before Oct 16, 2019 was performed in databases of PUBMED, EMBASE, Cochrane Library and Web of Science. The pooled risk ratios (RRs) or standardized mean differences (SMDs) were calculated. Results: Thirteen studies were included, representing 50,442 patients with rosacea. Rosacea cases had higher prevalence of dyslipidemia, higher prevalence of hypertension, higher total cholesterol (TC), higher low-density lipoprotein (LDL), higher triglycerides (TG), higher systolic blood pressure, higher diastolic blood pressure and higher fasting blood glucose (FBG). Rosacea was not associated with ischemic heart disease (IHD), stroke, diabetes and high-density lipoprotein (HDL). Limitations: No subgroup analysis could be performed according to the subtypes and severity of rosacea. Conclusion: Rosacea showed a correlation with hypertension and dyslipidemia, but not with IHD, stroke, nor diabetes. We advocate screening for CMD indicators among rosacea patients, which may be helpful for diagnosis and appropriate treatment at an early stage of disease.

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Pediatric synovitis, acne, pustulosis, hyperostosis, osteitis (SAPHO) syndrome: Diagnostic challenges and treatment approach. Kyriazi N, Papamerkouriou YM, Maritsi D, et al. Cureus. 2020 Apr 9;12(4):e7595. doi: 10.7759/cureus.7595. https://www.ncbi.nlm.nih.gov/pubmed/32399329

Synovitis, acne, pustulosis, hyperostosis, osteitis (SAPHO) syndrome is a rare disease; however, more and more case reports have been published that increase the awareness of this disorder, especially in children. Clinically it presents as a combination of chronic recurrent multifocal osteomyelitis symptoms and skin manifestations. SAPHO treatment remains a challenge. In most cases, non-steroidal anti-inflammatory drugs are initially used, although a combination with other drugs is preferred. In addition, antibiotics, corticosteroids, bisphosphonates, and disease-modifying anti-rheumatic drugs are usually administered with varied success. There are also promising results from novel biological therapy. This paper emphasizes some non-specific symptoms of the disease, in order to increase the suspicion of SAPHO in all pediatric clinical doctors. We present the case of a 13-year-old boy with severe acne, who was admitted to our hospital due to fever of unknown origin, accompanied by arthralgia of the right ankle and left knee.