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AARS Blog News

Cabtreo™ (Clindamycin Phosphate, Adapalene and Benzoyl Peroxide) Topical Gel Approved for the Treatment of Acne Vulgaris

The first and only fixed-dose, triple-combination topical treatment for acne has received FDA approval. Cabtreo™ (clindamycin phosphate, adapalene and benzoyl peroxide) Topical Gel 1.2%/0.15%/3.1% from Ortho Dermatologics is indicated for the topical treatment of acne vulgaris in patients 12 years of age and older. It is expected to be available to patients in the first quarter of 2024. Cabtreo offers three mechanisms of action, combining an antibiotic, retinoid and antibacterial, to provide a proven, safe and effective treatment. Two Phase 3 multicenter, randomized, placebo controlled clinical trials involving 363 patients with acne vulgaris met all co-primary efficacy endpoints, including absolute change from baseline in inflammatory lesion count, absolute change from baseline in non-inflammatory lesion count, and percentage of patients achieving treatment success (2 grade reduction of the EGSS (evaluators global severity score) from baseline with an EGSS score of clear (0) or almost clear (1)). Combined efficacy results for both trials show that Cabtreo achieved approximately 50% treatment success and approximately 75% reduction in both inflammatory and noninflammatory lesions at Week 12. “We are excited to see that the triple combination in Cabtreo has resulted in significant treatment success and reduction in both the inflammatory and noninflammatory lesions typically associated with acne,” said Julie C. Harper, MD, of Dermatology & Skin Care Center of Birmingham in Birmingham, AL. “With the approval of Cabtreo, physicians can now offer patients an acne treatment that has the potential to be a simple, once daily dosing option.” In clinical trials, the most common adverse reactions (occurring in >1% of the Cabtreo group and greater than the vehicle group) were application site reactions, pain, erythema, dryness, irritation, exfoliation, and dermatitis.

UK Regulatory Agency Places New Restrictions on Isotretinoin Prescribing

Most teens in the UK will need sign-off from two healthcare professionals before they can receive isotretinoin for severe acne, according to new regulations enacted by the UK Medicines and Healthcare products Regulatory Agency (MHRA). Other safety measures introduced October 31 include updated patient information on potential risks of isotretinoin therapy and mandatory in-person assessments of patients’ mental and sexual health prior to initiation of therapy. MHRA says that The Commission on Human Medicine’s Isotretinoin Implementation Expert Advisory Working Group, comprised of experts from fields including dermatology, general practice, and psychiatry, advised the Agency on the new measures. The British Association of Dermatologists, the British Dermatological Nursing Group, and other stakeholders have produced supplementary documents to assist clinicians in adhering to the new guidelines. Under new measures, individuals 12 years of age up to age 18 will be assessed by a second healthcare professional in addition to the Lead Prescriber—a dermatologist. This second healthcare professional will independently assess the patient and determine whether isotretinoin is the only appropriate effective treatment. Roles and responsibilities of the two prescribers are fully described in a final report. MHRA, an executive agency of the UK’s Department of Health and Social Care, is responsible for regulating all medicines and medical devices in the UK by ensuring they work and are acceptably safe.

FDA Approves Cosentyx for Treatment of Hidradenitis Suppurativa

The FDA has approved Cosentyx® (secukinumab) from Novartis to treat moderate to severe hidradenitis suppurativa (HS) in adults. It is approved as a 300mg dose, administered every four weeks, with the option to increase to every two weeks if the patient has an inadequate response. With the new indication, Cosentyx is the only FDA-approved fully human biologic that directly inhibits interleukin-17A (IL-17A), a cytokine believed to be involved in the

inflammation of HS. FDA approval was based on analyses from the largest Phase III program in HS to date. In these trials, SUNSHINE and SUNRISE, a higher proportion of patients given Cosentyx 300mg either every two weeks or every four weeks achieved a Hidradenitis Suppurativa Clinical Response (HiSCR50) compared to placebo. The studies evaluated Cosentyx across 16-week (vs placebo) and 52-week treatment periods, the onset of action of Cosentyx occurred as early as Week 2. Efficacy progressively increased to Week 16 and was observed up to Week 52. The safety profile of Cosentyx observed in these HS trials was consistent with its known safety profile observed in the plaque psoriasis trials. SUNSHINE and SUNRISE had a combined enrollment of more than 1,000 patients. A Hidradenitis Suppurativa Clinical Response (HiSCR50), the primary endpoint in the two pivotal trials, is defined as at least a 50% decrease in abscess and inflammatory nodule (AN) count with no increase in the number of abscesses and/or draining tunnels. Secondary endpoints included a decrease in abscess and inflammatory nodules by at least 50% (AN50), the proportion of patients experiencing a flare, and the proportion of patients with a skin pain numeric rating scale 30 response up to 16 weeks of treatment. “For many patients, the daily impact of HS and the search for symptom relief can last years – which can come with painful, irreversible physical and emotional scarring,” said Alexa B. Kimball, MD, MPH, lead investigator of the SUNSHINE and SUNRISE trials, Professor of Dermatology at Harvard Medical School, President and CEO of Harvard Medical Faculty Physicians at Beth Israel Deaconess Medical Center, Boston. “This approval marks an important milestone for countless patients who have been faced with limited treatment possibilities and who now have a new option.” Results from FDA-requested analyses at Week 16 showed that a significantly higher proportion of patients achieved HiSCR50 when treated with Cosentyx 300mg dosed every two weeks (after standard weekly loading doses), compared with placebo in both the SUNSHINE and SUNRISE trials (44.5% vs 29.4% and 38.3% vs 26.1%, respectively). A greater proportion of patients randomized to Cosentyx 300mg dosed every four weeks (after standard weekly loading doses) achieved HiSCR50 compared with placebo in both SUNSHINE (41.3% vs 29.4%) and SUNRISE (42.5% vs 26.1%). An exploratory analysis assessed the long-term effects of Cosentyx for each of the primary and secondary endpoints for up to 52 weeks. HiSCR values observed at Week 16 following either dose regimen of Cosentyx were improved over time to Week 52, with rapid improvements seen in patients who switched from placebo at Week 16.

New Medical Research

Combination of fractional microneedling radiofrequency and ablative fractional laser versus ablative fractional laser alone for acne and acne scars. Kim J, Lee SG, Choi S, et al. Yonsei Med J. 2023 Dec;64(12):721-729. doi: 10.3349/ymj.2023.0234. https://pubmed.ncbi.nlm.nih.gov/37992744/

Purpose: Fractional microneedle radiofrequency (FMR) systems are used to treat inflammatory acne and scarring. Nonetheless, few controlled studies have combined this treatment with the traditional ablative fractional laser (AFL). We aimed to assess the safety and efficacy of the combination of FMR and AFL versus AFL alone in treating acne and acne scars. Materials and methods: In this 20-week, randomized, split-face study, 23 Korean patients with facial acne and acne scars underwent FMR and AFL treatments. One half of each patient's face was randomly assigned to receive FMR+AFL, whereas the other half received AFL alone. Treatments were administered in three consecutive sessions at 4-week intervals. This study investigated the severity of inflammatory acne, acne scars, individual lesion counts, depressed scar volumes, as well as patient and physician satisfaction. In addition, five patients underwent skin biopsy, and sebum output was measured. Results: The FMR+AFL treatment demonstrated superior efficacy compared to AFL alone in terms of inflammatory acne and acne scar grading, lesion counts, and subjective satisfaction. The side effects were minimal and well-tolerated in both groups. Immunohistochemical findings from skin biopsy samples revealed that the application of FMR+AFL could induce an inhibitory effect on sebum secretion at the

molecular level. Conclusion: FMR combined with AFL is a well-tolerated and effective treatment modality for inflammatory acne and acne scarring.
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Pulsed-dye laser as an effective treatment for recalcitrant granulomatous rosacea and a potential regulator of CXCL9 expression. Maeng JE, Son SW, Lee SJ, et al. J Dermatol. 2023 Nov 27. doi: 10.1111/1346-8138.17051. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/38009832/
Granulomatous rosacea (GR) is a rare and distinct variant of rosacea. We report three cases of recalcitrant GR successfully treated with pulsed-dye laser (PDL) and provide experimental evidence supporting its potential as a treatment option. PDL treatment demonstrated remarkable efficacy in the three clinical cases, despite their resistance to conventional therapies. Chemokine ligand 9 (CXCL9), a key chemokine involved in inflammation and granuloma formation, was found to be increased in skin sections from all three patients. In vitro experiments using human monocytes and dermal fibroblasts demonstrated that PDL treatment significantly reduced CXCL9 expression in fibroblasts. These findings suggest that PDL may modulate CXCL9 secretion in fibroblasts, potentially limiting the recruitment of immune cells to the lesion. Although further research is needed to fully understand the precise mechanisms underlying the role of CXCL9 in GR, PDL may be a promising therapeutic approach for refractory GR.

Evaluation of DermSat-7 for assessing treatment satisfaction in patients with acne. Shields A, Armstrong AW, Kaur MN, et al. JAMA Dermatol. 2023 Nov 22:e234481. doi: 10.1001/jamadermatol.2023.4481. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37991774/
Importance: Treatment satisfaction is important to achieving therapeutic success in patients with inflammatory dermatological diseases, such as acne. Objective: To evaluate the structural validity, internal consistency, and construct validity of the DermSat-7, a questionnaire-based measure of treatment satisfaction, in patients with acne seen in routine clinical practice. Design, setting, and participants: This cross-sectional study included adults with acne who were fluent in English and treated at an outpatient clinic at Brigham and Women's Hospital between July 2022 and May 2023. At each visit, patients completed a self-administered, patient-reported outcome questionnaire, including a patient global assessment (PGA) of their acne severity and the DermSat-7. The DermSat-7 consists of 7 items assessing 3 domains of treatment: effectiveness (3 items), convenience (3 items), and overall satisfaction (1 item). At subsequent visits, patients were asked an anchor item related to change in disease severity ("How has your acne changed compared to your last visit?") that was scored on a 7-point scale (-3 = much worse to 3 = much better). Also at each visit, a dermatologist completed the Comprehensive Acne Severity Scale (CASS). Main outcomes and measures: The main outcomes were structural validity (assessed by factor analysis), internal consistency (assessed by Cronbach α), and construct validity (assessed using linear regression models and Pearson correlation coefficients). Results: The analysis included 142 patients with acne (mean [SD] age, 25.1 [5.1] years; 96 females [67.6%]) taking acne medication who completed the DermSat-7. Exploratory factor and confirmatory factor analysis supported the unidimensionality of the 3 DermSat-7 domains. Cronbach α values of 0.89 and 0.80 supported good internal consistency in the effectiveness and convenience domains, respectively. Known-groups validity was supported by increasing DermSat-7 effectiveness and overall satisfaction scores with increasing levels of positive change in disease severity (linear regression coefficient, 7.51; 95% CI, 4.94-10.08; P < .001). Construct validity was further supported by moderate correlations with the anchor, PGA, and CASS scores (effectiveness domain: anchor r = 0.567, PGA r = -0.538, and CASS r = -0.485; overall satisfaction domain: anchor r = 0.467, PGA r = -0.486, and CASS r = -0.489). Conclusion and relevance: This cross-sectional study found that the DermSat-7 may be an effective tool for measuring treatment satisfaction, particularly effectiveness and overall satisfaction domains, among patients with acne. Further research is needed to examine additional measurement properties of the DermSat-7, such as content

validity and interpretability, as well as to validate the DermSat-7 in other populations of patients with acne.
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5-Aminolevulinic acid photodynamic therapy using with 560-1200 nm followed by 420-1200 nm broadband light in the treatment of moderate-to-severe acne. Zhang W, He Z, Qin Y, et al. Photodiagnosis Photodyn Ther. 2023 Nov 18:103902. doi: 10.1016/j.pdpdt.2023.103902. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37984524/

Background: Moderate-to-severe acne vulgaris, which is a chronic inflammatory skin disease, seriously impacts millions of people. However, traditional therapies may cause severe adverse reactions that are unacceptable to many patients, thus limiting the further application of these therapies. Novel therapeutic approaches to effectively treat moderate-to-severe acne vulgaris with minimal adverse reactions are urgently needed. In this retrospective study, we investigated the efficacy and adverse reactions of photodynamic therapy (PDT) using with 560-1200 nm broadband light (BBL) followed by 420-1200 nm BBL. Methods: Twenty-four patients with moderate-to-severe acne vulgaris were included in the study and all patients expressed a strong desire for beauty. After ALA gel applied, the entire face was sequentially irradiated by using BBL with a 560 nm cut-off filter (560-1200 nm), followed by BBL with a 420 nm cut-off filter (420-1200 nm). The clinical efficacy was evaluated by the proportion of patients achieving cured response and excellent response (effective rate), based on the percentage of lesions reduction (treatment rate). The fluorescent images and photographs of acne vulgaris were recorded. Pain and other common local adverse reactions during the treatment were also recorded and evaluated. Results: In patients with moderate acne, the mean treatment rates were 57.74±16.40 (%) and 87.40±8.521 (%) at the 6th week and 12th week of treatment, respectively. In patients with severe acne, the mean treatment rates were 60.95±12.06 (%) and 85.04±9.115 (%) at the 6th week and 12th week of treatment, respectively. At the 6th and 12th weeks of treatment, the effective rates of patients were 20.00% and 93.33% in patients with moderate acne, and 0.000% and 88.89% in patients with severe acne, respectively. Pain scores were significantly higher in patients with severe acne compared to patients with moderate acne. Additionally, patients when receiving 420-1200 nm BBL-PDT exhibited significantly higher pain scores than those when receiving 560-1200 nm BBL-PDT. The degree of erythema was more severe in patients with severe acne than in those with moderate acne. The pigmentation was observed in one patient with moderate acne and one patient with severe acne. Conclusion: The 560-1200 nm and 420-1200 nm BBL-PDT therapy can effectively treat moderate-to-severe acne vulgaris with tolerable adverse reactions, providing a new option for patients with higher aesthetic requirements.

An innovative dual-wavelength laser technique for atrophic acne scar management: A pilot study. Belletti S, Madeddu F, Amoruso GF, et al. Medicina (Kaunas). 2023 Nov 15;59(11):2012. doi: 10.3390/medicina59112012. https://pubmed.ncbi.nlm.nih.gov/38004061/

Background and Objectives: Acne scars are one of the most disturbing and long-term symptoms of acne vulgaris, having a negative impact on a person's physical, emotional, and social well-being. Aim: the purpose of the study was to evaluate the efficacy and post-treatment outcomes of a dual-wavelength system combining the irradiation of two wavelengths at 10,600 nm and 1540 nm in the management of facial atrophic acne scars. Materials and Methods: Four healthy adult volunteers aged 24-53 years were enrolled. The areas treated were the full face (two patients), cheeks (one patient), and forehead (one patient). A dual-wavelength system (1540 nm and 10,600 nm) was used for this study. Patients underwent 2-4 treatment sessions, and the treatments were performed once every 45-90 days. All possible side effects such as burning sensation, dyschromia, mild to moderate post-treatment erythema, bleeding, itching, edema, and crusting were checked. The index to assess edema and erythema was based on a four-point scale (none, mild, moderate, and severe) and was applied before and at 3-month follow-up (3 MFU) after the last treatment session. In addition, a patient assessment was conducted before treatment and at 3 MFU after the last

treatment session. Results: For all patients examined, the edema index was mild, while for the erythema index, 3/4 patients experienced moderate and 1/4 patients experienced mild symptoms. The mean patient downtime was 5.8 ± 0.5 days. Concerning the patient assessment, 2/4 subjects showed excellent improvement, 1/4 patients showed good improvement, and 1/4 patients showed slight improvement. As shown by the photographic assessment, a noticeable improvement in skin texture and a substantial reduction in acne scars were observed at the end of treatment. Conclusions: This dual-wavelength laser technology has the potential to be an interesting and safe approach for acne scar treatment, with a low risk of scarring/hypopigmentation and a shorter healing time.
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Acne transcriptomics: Fundamentals of acne pathogenesis and isotretinoin treatment. Melnik BC. Cells. 2023 Nov 10;12(22):2600. doi: 10.3390/cells12222600. https://pubmed.ncbi.nlm.nih.gov/37998335/
This review on acne transcriptomics allows for deeper insights into the pathogenesis of acne and isotretinoin's mode of action. Puberty-induced insulin-like growth factor 1 (IGF-1), insulin and androgen signaling activate the kinase AKT and mechanistic target of rapamycin complex 1 (mTORC1). A Western diet (hyperglycemic carbohydrates and milk/dairy products) also co-stimulates AKT/mTORC1 signaling. The AKT-mediated phosphorylation of nuclear FoxO1 and FoxO3 results in their extrusion into the cytoplasm, a critical switch which enhances the transactivation of lipogenic and proinflammatory transcription factors, including androgen receptor (AR), sterol regulatory element-binding transcription factor 1 (SREBF1), peroxisome proliferator-activated receptor γ (PPARγ) and signal transducer and activator of transcription 3 (STAT3), but reduces the FoxO1-dependent expression of GATA binding protein 6 (GATA6), the key transcription factor for infundibular keratinocyte homeostasis. The AKT-mediated phosphorylation of the p53-binding protein MDM2 promotes the degradation of p53. In contrast, isotretinoin enhances the expression of p53, FoxO1 and FoxO3 in the sebaceous glands of acne patients. The overexpression of these proapoptotic transcription factors explains isotretinoin's desirable sebum-suppressive effect via the induction of sebocyte apoptosis and the depletion of BLIMP1(+) sebocyte progenitor cells; it also explains its adverse effects, including teratogenicity (neural crest cell apoptosis), a reduced ovarian reserve (granulosa cell apoptosis), the risk of depression (the apoptosis of hypothalamic neurons), VLDL hyperlipidemia, intracranial hypertension and dry skin.
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Evaluation of the effect of oral isotretinoin on the level of serum YKL40 in acne vulgaris patients: A cross-sectional case-control. Ali MA, El Taieb MA, Hegazy EM, et al. Clin Cosmet Investig Dermatol. 2023 Nov 9:16:3241-3248. doi: 10.2147/CCID.S431856. eCollection 2023. https://pubmed.ncbi.nlm.nih.gov/37965101/
Background: In the entire world, acne vulgaris (AV) is the most prevalent skin condition. Approximately 9.4% of people worldwide have acne vulgaris. This study compared the blood levels of chitinase 3-like protein 1 (YKL-40) in acne vulgaris patients before and after oral isotretinoin therapy. Patients and methods: The design of the study was cross-sectional case-control. Forty patients with moderate to severe acne vulgaris and twenty healthy participants participated in this study. Using the Global Acne Grading System (GAGS) score, patients with acne vulgaris were evaluated both before and after concluding their treatment. Using the enzyme-linked immunosorbent assay (ELISA), the serum levels of YKL-40 were measured before and after oral isotretinoin therapy in healthy controls and acne patients. Results: Patients with acne vulgaris had considerably greater serum levels of YKL-40 than healthy control subjects (p 0.001) did. After three months of oral isotretinoin medication, the GAGS score and blood levels of YKL-40 in acne vulgaris patients both significantly decreased. Conclusion: The conclusion of this study was that reducing the blood levels of YKL-40 and the GAGS score in patients with acne vulgaris who took oral isotretinoin for three months was a crucial strategy.
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Photodynamic therapy for severe acne. Pomi FL, Vaccaro M, Peterle L, Borgia F. Photodiagnosis Photodyn Ther. 2023 Nov 9:103893. doi: 10.1016/j.pdpdt.2023.103893. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37951327/

Acne is an inflammatory cutaneous disease affecting the pilosebaceous unit and hair follicles on the face, neck, back, and chest, with a typical onset in adolescence and, in some cases, persisting into adulthood. Systemic treatments with antibiotics or isotretinoin present many limitations, like antimicrobial resistance phenomena and teratogenicity, which appear more relevant in the pediatric population, both for the treatment-related risks and for the reticence of the parents. Photodynamic therapy (PDT) has already shown encouraging results in the treatment of acne in adult patients, with good aesthetic results compared to other therapies and few side effects. However, its use is still not standardized in the pediatric population. On this topic, we report our experience with PDT in a young patient affected by dorsal acne. After five sessions of ALA-PDT at monthly intervals, a remarkable improvement of the lesions was observed, with the healing of the inflamed nodules and pustules, resolution of the painful symptoms, and an acceptable cosmetic outcome. Our case is paradigmatic of the potentiality of PDT to treat difficult and resistant-to-treatment lesions. Despite being time-consuming, this procedure has been demonstrated to be safe and well-tolerated. Lastly, the therapy is also well accepted by parents, due to its minimal invasiveness and mild side effects, compared to the other therapeutic options.

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Topical silymarin cream as a novel therapy versus salicylic acid peels in acne vulgaris: A split-face clinical trial. Atallah DA, Badran AY, Makhlouf AG, Mekkawy MM. J Cutan Med Surg. 2023 Nov 9:12034754231211568. doi: 10.1177/12034754231211568. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37942562/

Background: Acne vulgaris is a common dermatological condition that greatly impacts patients' self-confidence. Ongoing research is conducted to explore new treatment modalities. Silymarin owns special characteristics that qualify it as a possible treatment for acne vulgaris. Objective: We evaluated the efficacy and safety of silymarin cream as a new therapeutic option against salicylic acid peels in the treatment of mild to moderate acne vulgaris. Methods: A split-face, comparative, Quasi-experimental clinical trial included 30 patients with acne vulgaris. Salicylic acid 30% peels were applied as an office procedure to one half of the face every 2 weeks for 3 months. Topical silymarin 1.4% cream was prescribed as a home treatment, twice daily, to the other half of the face for 3 months. The results were evaluated using the Global Acne Grading System (GAGS), photographic evaluation, and patient self-assessment scale. The adverse effects during treatment were recorded. The sample size was calculated by Stata/IC 16.1. Results: After treatment, a significant reduction of GAGS was noted on both sides of the face, with an insignificant difference between both treatments. The comparative photographic evaluation and patient self-assessment scale were also insignificant. Hyperpigmentation was recorded in 2 cases on the salicylic acid-treated side. No side effects for silymarin cream were observed. Conclusion: Topical silymarin cream 1.4% showed comparable results to Salicylic acid 30% peels. It can be considered a promising safe treatment modality for mild to moderate acne vulgaris.

Efficacy of a multitargeted, salicylic acid-based dermocosmetic cream compared to benzoyl peroxide 5% in acne vulgaris: Results from a randomized study. Dal Belo SE, Kanoun-Copy L, Lambert C, et al. J Cosmet Dermatol. 2023 Nov 8. doi: 10.1111/jocd.16052. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37941097/

Introduction: Acne vulgaris (acne) is characterized by both inflammatory and non-inflammatory lesions. Benzoyl peroxide (BPO) 5% is approved to treat acne but may cause skin irritation and/or contact allergy. Objectives: To compare the benefit in acne of a multitargeted dermocosmetic cream containing salicylic acid, lipohydroxy acid, niacinamide, 2-oleamido-1,3-octadecanediol, piroctone olamine, zinc, Aqua posae filiformis, and thermal spring water (DC-Eff) to BPO 5% gel. Materials and methods: 150 Caucasian subjects (50% female) aged between 18 and 40

years, with mild to moderate acne according to the GEA (Global Evaluation of Acne) grading system were randomized into two parallel groups (DC-Eff or BPO to be applied twice daily for 56 days). IGA (investigator global assessment), GEA, lesion count, clinical signs and symptoms, and subject assessment were evaluated at baseline, and after 28 and 56 days (D28 and D56) of treatment. Results: The responder analyses of the IGA and GEA scores showed that 62.2% and 47.3%, respectively, in the DC-Eff, compared with 50.0% and 36.5%, respectively, in the BPO, had improved by at least one point at D56. Inflammatory, non-inflammatory, and total lesion counts significantly ($p < 0.0001$) decreased with both products from baseline, with no between-group difference. Subjects considered that their skin was smoother and that DC-Eff was easy to apply. DC-Eff was better tolerated than BPO. Conclusions: DC-Eff applied twice daily is as beneficial as BPO in improving mild-to-moderate acne. DC-Eff was better tolerated than BPO and highly appreciated.

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The efficiency and safety of low-dosage isotretinoin therapy for Chinese acne vulgaris patients. Li Y, Zeng Y, Chen Z, et al. J Cosmet Dermatol. 2023 Nov 7. doi: 10.1111/jocd.16073. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37934937/

Background: Acne vulgaris is one of the most common skin conditions in dermatology clinics. Accumulating evidence has implicated oral low-dosage isotretinoin was an effective treatment for acne with fewer side effects. Currently, the data on low-dosage isotretinoin use in Chinese is limited. Aims: To investigate the efficiency and safety of low-dosage isotretinoin therapy for Chinese acne patients. Methods: Three hundred and eighty-eight patients treated with low-dosage isotretinoin (0.2-0.4 mg/kg/d) and who completed the course (120 mg/kg) were enrolled. Medical information on the severity, duration, adverse effects, and outcome of acne was reviewed. Results: The majority (90.2%, n = 350) of patients achieved complete remission, and on average, patients received 13.5 months of treatment. The time between isotretinoin start and the clear date between the mild and moderate groups was not significantly different (74 ± 24 vs. 84 ± 24 days). However, it took longer to resolve for the severe acne group (112 ± 25 days). Follow-up 1 year after completion of the isotretinoin course, 37/350 (10.6%) patients relapsed, but there was no difference in the severity of acne. There were 133 (34.3%), 40 (10.3%), and 14 (2.6%) patients who developed hypercholesterolemia, hypertriglyceridemia, and high LDL, respectively. Thirty-two (8.2%) and 28 patients (7.2%) had elevated serum levels of alanine and aspartate aminotransferases. No values above grade 2 were detected. Conclusions: This study reaffirms the efficacy and safety of low-dosage oral isotretinoin in Chinese patients with acne vulgaris. Lab investigation could be performed after 2 months of therapy in healthy patients with normal baseline liver function and lipid panel tests.

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A prospective, multicenter, study of laser-activated gold microparticles for treating patients using concomitant topical retinoids for mild-to-moderate inflammatory acne. Waibel J, Graber E, Lain T, et al. J Drugs Dermatol. 2023 Nov 1;22(11):1094. doi: 10.36849/JDD.1088. https://pubmed.ncbi.nlm.nih.gov/37943275/

Gold microparticles are indicated as an accessory to 1064 nm lasers to facilitate photo-thermal heating of sebaceous glands for treating mild-to-moderate inflammatory acne vulgaris (Sebacia Microparticles, Coronado Aesthetics LLC, Southlake, TX). The following study assessed the safety and clinical benefit of gold microparticles/laser therapy when used together with commercially available topical acne products. Healthy patients, 12 to 45 years old with mild-to-moderate inflammatory facial acne were prescribed a topical pre-treatment retinoid for 3 to 4 weeks. The gold microparticle suspension was then applied to the entire face and massaged into the skin. The laser procedure was performed with commercially available 1064 nm Nd:YAG lasers with fluence in the 20 to 35 J/cm2 range, a 30 ms pulse duration, and direct cooling. Among participants completing the study (N=52), the mean percent change in

inflammatory lesion counts (ILC) was -55% at month 2, reaching -68% at month 12. At that time, 86% of participants achieved a 40% decrease in ILC and 75% achieved a 60% decrease in ILC. Mean Investigator's Global Assessment (IGA) Scale scores decreased by 41.6% from 2.4 at day 0 to 1.4 at month 12. The percentage of participants with clear or almost clear skin increased from 7% at day 0 to 59% at month 12. Acne therapy with topically applied gold microparticles followed by 1064 nm laser irradiation is an effective treatment for moderate to moderately severe acne. The treatment was well-tolerated with a high degree of participant satisfaction.

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Comprehensive assessment of the efficacy and safety of a clay mask in oily and acne skin. Zhang X, Zhang Z, Tao H, et al. Skin Res Technol. 2023 Nov;29(11):e13513. doi: 10.1111/srt.13513. https://pubmed.ncbi.nlm.nih.gov/38009030/

Background: Oily skin, characterized by excessive sebum production, can lead to acne and have psychosocial impacts due to changes in appearance. Recent research has shown interest in treatments for oil control, with kaolin and bentonite emerging as promising options. Despite their potential, comprehensive studies on these ingredients are still in the nascent stages. Aim: This study aimed to assess the efficacy of a clay mask (La Roche-Posay Effaclar Sebo-Controlling Mask) in reducing skin oiliness and acne, and its safety for use. Methods: In this study, 75 adults with oily or combination skin were enrolled and provided with a clay mask for twice-weekly use over 4 weeks. Clinical assessments, using instruments like Sebumeter, Vapometer, and Corneometer, were conducted at baseline, and after 1, 2, and 4 weeks, evaluating acne lesions, skin irritation, sebum content, and skin hydration. Participant self-assessment questionnaires were also utilized for subjective evaluation. Statistical analyses were performed accordingly. Results: The study revealed significant improvements in acne-related outcomes, sebum content, skin evenness, stratum corneum water content, and transepidermal water loss following the application of the clay mask. Pore area and porphyrin area showed no significant changes. Tolerance assessment showed reduced dryness and irritation, with self-assessment indicating high product acceptability and perceived oil control effectiveness.

Conclusion: This study demonstrated the clay mask's efficacy in managing acne and oily skin, improving hydration and texture. Significant improvements in skin parameters and high product safety were observed, supporting its suitability.

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Alternating treatment with nonablative fractional laser and radiofrequency microneedling for the treatment of acne scars: A prospective, randomized, split-face study. Hartman N, Loyal J, Borsack S, et al. Dermatol Surg. 2023 Oct 26. doi: 10.1097/DSS.0000000000003994. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/37962952/

Background: Acne scarring is an unfortunate sequela affecting up to 95% of patients with acne and carries profound psychosocial impact. Both nonablative fractional lasers (NAFL) and microneedling with radiofrequency (MNRF) have demonstrated comparable efficacy in the treatment of atrophic acne scars. Objective: To determine whether alternating NAFL and MNRF is superior to NAFL alone in the treatment of atrophic acne scars. Methods and materials: This was a prospective, single-center, double-blinded, split-face clinical trial. Twenty patients with atrophic acne scars who had their facial halves randomized to receive either NAFL alone or NAFL alternating with MNRF. Patients received 4 total treatments at 4-week intervals. Results: Ninety days after the final treatment, both facial halves demonstrated a significant improvement in the mean global échelle d'évaluation clinique des cicatrices d'acné (ECCA) score from baseline ($p < .001$ for both halves). The average percentage improvement at the final end point was 20% to 30% from baseline. No significant difference was noted between facial halves for mean global ECCA score or percentage improvement at any time point. Conclusion: Although both NAFL and MNRF are safe and effective in the treatment of atrophic acne scars, alternating NAFL and MNRF does not seem to be superior to NAFL alone.

Clinical Reviews

Long-term maintenance treatment of rosacea: experts' opinion. Almeida LMC, Ianhez M, Dal'Forno T, et al. Int J Dermatol. 2023 Nov 28. doi: 10.1111/ijd.16920. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/38013632/
Background: Rosacea is a chronic inflammatory dermatosis characterized by remissions and flares. Although the rosacea active treatment phase is well established, the long-term maintenance phase is still challenging. Objective: To discuss and make recommendations on how to treat patients during the long-term maintenance phase for the main rosacea phenotypes. Methods: A panel of six board-certified Brazilian dermatologists and one American dermatologist gathered to compose a consensus based upon an initial statement on how to treat rosacea during the long-term maintenance phase based on the methodology Nominal Group Technique. The experts discussed each factor based upon an initial statement on how to treat rosacea patients in the long-term maintenance phase. A sequence of comprehensive narrative reviews was performed; a questionnaire preparation about the definition of the maintenance phase and its management was presented; an interpersonal discussion and ranking of the ideas were conducted. Recommendations were made if the specialists had 75% agreement. Results: The maintenance treatment phase, which starts by achieving IGA 0 or 1 grades at the active phase, should be considered at least during the 9-month period after remission. The recommendations of all treatments target this period. Daily skincare regimen and sunscreen are crucial. Active treatment phase should be recommended if signs or symptoms reappear or worsen. Conclusion: Maintenance phase success depends on patient's adherence to daily skin care, appropriate treatments, continued follow-up with dermatologist, and self-assessment to identify new signs and symptoms indicating disease relapse.

Successful treatment of granulomatous rosacea by JAK inhibitor abrocitinib: A case report. Ren M, Yang X, Teng Y, et al. Clin Cosmet Investig Dermatol. 2023 Nov 20:16:3369-3374. doi: 10.2147/CCID.S440138. eCollection 2023. https://pubmed.ncbi.nlm.nih.gov/38021428/
Granulomatous rosacea (GR) is a rare inflammatory skin disease characterized by persistent, hard, yellow, brown, red, or flesh-colored papules, plaques, or nodules on the face. Limited data are available on patients treated for GR, with only case reports and case series published. Herein, we describe the case of a 53-year-old woman who presented to the hospital with persistent red to brown and pink patches on both cheeks accompanied by a burning sensation for one month. Histopathological examination of a cutaneous biopsy revealed granulomatous inflammation in focal areas. Both acid-fast and Periodic acid-Schiff staining were negative. The patient was diagnosed with GR based on her clinical presentation and laboratory test results. She was treated with abrocitinib, a JAK-1 inhibitor, for 20 weeks. This resulted in substantial improvement in her rash and the associated burning sensation. Subsequent follow-up visits indicated no adverse effects or relapses. Additionally, a literature review was conducted to compare with the current case, which concluded that abrocitinib is a viable treatment option for GR, exhibiting a relatively high safety profile with minimal side effects.

Azithromycin treatment for acne vulgaris: A case report on the risk of clostridioides difficile infection. Alnajjar LI, Bakkari S, Alkahtani RM, et al. Am J Case Rep. 2023 Nov 20:24:e941424. doi: 10.12659/AJCR.941424. https://pubmed.ncbi.nlm.nih.gov/37983201/
BACKGROUND Clostridium difficile (C. difficile) is a gram-positive, anaerobic, spore-forming bacillus. It can lead to pseudomembranous colitis characterized by electrolyte disturbances, toxic megacolon, and septic shock. The risk of C. difficile infection is higher with use of certain classes of antibiotics, or when an antibiotic used for a long time. Azithromycin is a macrolide antibiotic known to be safe, with few adverse effects such as diarrhea, stomach pain, and constipation. Azithromycin is currently used for the treatment of acne, with different dosing regimens for patients who

cannot receive traditional treatment based on practice guidelines. CASE REPORT A 41-year-old woman was treated with a course of azithromycin 500 mg by mouth 3 times weekly for 6 weeks for acne vulgaris. This was her second antibiotic course of acne treatment within 10 months. A few days after completion of the second azithromycin course, she presented to the clinic with worsening abdominal pain and frequent soft bloody stool. A complete blood count test, C. difficile toxin test, stool culture, and colonoscopy were ordered. She was diagnosed with C. difficile infection confirmed by C. difficile toxin and symptoms. CONCLUSIONS Despite the safety profile of azithromycin, our patient was predisposed to a non-severe case of C. difficile-associated diarrhea, most likely due to the repeated course of the azithromycin regimen that was used to treat her acne vulgaris. This report highlights the importance of managing patients with acne vulgaris according to current practice guidelines, and to report a link between the use of azithromycin as an acne treatment and the occurrence of C. difficile colitis.
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Case series of demodicosis in acne vulgaris patients. Paichitrojjana A, Paichitrojjana A. Clin Cosmet Investig Dermatol. 2023 Nov 18:16:3363-3368. doi: 10.2147/CCID.S441581. eCollection 2023. https://pubmed.ncbi.nlm.nih.gov/38021431/
An abnormal density of Demodex mites can trigger many skin disorders known as demodicosis. Clinical manifestations of demodicosis may resemble other skin diseases and can coexist with other skin disorders, resulting in underdiagnosis and a more challenging diagnosis. Here, we report three cases of demodicosis in acne vulgaris patients. These case series have discussed their clinical features along with optimal strategies for diagnosis and treatment.

Narrow-band intense pulsed light as treatment for erythematotelangiectatic rosacea: A retrospective study. Shi H, Zhang E, Zhang M, Lin T. J Drugs Dermatol. 2023 Nov 1;22(11):1095-1098. doi: 10.36849/JDD.4920. https://pubmed.ncbi.nlm.nih.gov/37943269/
Background: Erythematotelangiectatic rosacea can be successfully treated using various laser and light-based devices. However, the use of narrow-band intense pulsed light for the treatment of erythematotelangiectatic rosacea has not been investigated in detail. This retrospective study aimed to analyze the clinical efficacy of narrow-band intense pulsed light (500-600 nm) for the treatment of erythematotelangiectatic rosacea among Chinese individuals. Methods: Patients with erythematotelangiectatic rosacea who had completed 3 sessions of treatment with narrow-band intense pulsed light and follow-up from July 2016 to December 2018 were retrospectively evaluated. Clinical improvement was assessed by 2 blinded dermatologists based on photographs obtained at each follow-up visit using the clinician erythema assessment scale and 5-grade scale. Results: Forty-five patients with erythematotelangiectatic rosacea treated with narrow-band intense pulsed light were included in this study. The effectiveness and excellent rates after 3 treatment sessions were 68.9% and 35.6%, respectively. An average of 2 treatment sessions was required among patients who achieved good or excellent clearance of erythema and telangiectasia. Except for transient erythema and edema, no severe adverse effects were observed. Conclusions: Narrow-band intense pulsed light is a safe and effective treatment for erythematotelangiectatic rosacea. Even with a small number of treatment sessions, narrow-band intense pulsed light can deliver a significant therapeutic effect, which may be applicable in clinical practice.
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Seasonal patterns in tetracycline-associated hyperpigmentation among patients with acne vulgaris. Young K, Pagan AD, Yoon J, et al. J Drugs Dermatol. 2023 Nov 1;22(11):e9-e11. doi: 10.36849/JDD.7409. https://pubmed.ncbi.nlm.nih.gov/37943268/

Background: Oral tetracyclines (TCNs) are commonly prescribed for acne, but they have been shown to increase the risk of hyperpigmentation, particularly in the setting of sun exposure. Objective: We evaluated seasonal trends in TCN-associated hyperpigmentation incidence in addition to Google search trends for hyperpigmentation-related terms. Methods: We performed a retrospective review of acne patients seen at Massachusetts General Brigham and Women's Hospital between 1992 and 2022. We calculated the incidence of new hyperpigmentation diagnoses for each drug cohort. We also analyzed search volume of hyperpigmentation-related terms extracted from Google Trends. Results: Seasonal differences in new hyperpigmentation diagnoses were identified among acne patients prescribed doxycycline (P=0.016), with peak incidence in April. In the control group of patients who had never received a TCN, diagnoses peaked in May. There were no significant seasonal differences among patients prescribed minocycline (P=0.885). There was greater search volume for hyperpigmentation-related terms in spring and summer compared to fall and winter (P<0.001). Limitations of this study include its retrospective nature and reliance on prescription and diagnosis coding data. Conclusions: Our findings support the seasonal periodicity of acne-related hyperpigmentation, underscoring the importance of photoprotection counseling for patients with acne. Additionally, doxycycline may be associated with an earlier onset of hyperpigmentation, suggesting a potential benefit of considering minocycline or other alternatives to doxycycline.

Nanomedicine-fortified cosmeceutical serums for the mitigation of psoriasis and acne. Patel P, Pal R, Butani K, et al. Nanomedicine (Lond). 2023 Oct;18(24):1769-1793. doi: 10.2217/nnm-2023-0147. Epub 2023 Nov 22. https://pubmed.ncbi.nlm.nih.gov/37990979/

Cosmetics have a long history of use for regenerative and therapeutic purposes that are appealing to both genders. The untapped potential of nanotechnology in cosmeceuticals promises enhanced efficacy and addresses the issues associated with conventional cosmetics. In the field of cosmetics, the incorporation of nanomedicine using various nanocarriers such as vesicle and solid lipid nanoparticles significantly enhances product effectiveness and promotes satisfaction, especially in tackling prevalent skin diseases. Moreover, vesicle-fortified serum is known for high skin absorption with the capacity to incorporate and deliver various therapeutics. Additionally, nano-embedded serum-based cosmeceuticals hold promise for treating various skin disorders, including acne and psoriasis, heralding potential therapeutic advancements. This review explores diverse nanotechnology-based approaches for delivering cosmetics with maximum benefits.