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Industry News

FDA clears the Accure Laser System for the treatment of mild to severe inflammatory acne vulgaris. DermWire, Practical Dermatology. November 22, 2022. https://practicaldermatology.com/news/fda-clears-the-accure-laser-system-for-the-treatment-of-mild-to-severe-inflammatory-acne-vulgaris?c4src=news-landing:feed

The FDA has cleared Accure Acne Inc's Accure Laser System to treat mild to severe inflammatory acne vulgaris. The Accure Laser System builds upon the unique selectivity of the 1726nm laser wavelength, adding proprietary technology to precisely control thermal gradient depth. This technology breakthrough is accomplished through a unique pulsing algorithm, integrated temperature monitoring, and precise automated control of the laser. In the US alone, acne vulgaris affects more than 50 million teens and adults annually, making acne one of the most treated skin conditions by healthcare providers, with a market size of $4.27 billion in 2021. "The Accure Laser System clearance is tremendously exciting for dermatologists and their patients. This platform is much more than the 1726nm wavelength laser that selectively targets sebaceous glands; this innovative intellectual property brings a new level of sophistication to energy-based devices targeting acne," says Christopher Carlton, Accure Acne Co-Founder, Chairman and CEO. "Accure Acne was founded over seven years ago to develop this disruptive technology to address multiple clinical applications. We have carefully built a positive safety profile and strive for best-in-class clinical results." Accure's clinical and technical development teams represent an enduring collaboration of engineering acumen and clinical expertise, led by Prof. Rox Anderson, MD, Co-Founder and Chief Scientific and Medical Officer of Accure. Dr. Anderson is an influential medical scientist and inventor dedicated to the field of light and energy-based devices used in dermatology, medical aesthetics, and various specialties. Dr. Anderson says, "It has been my passion for two decades to bring lasting relief to acne sufferers throughout the world. The Accure Laser System is a significant leap forward, and I congratulate Accure in achieving this important milestone. " Fernanda Sakamoto, MD, PhD, the lead author of the seminal research of 1726nm laser wavelength selectivity of sebaceous glands adds, "My experience is that this is significant. Acne is such a common disease, and many patients can fail treatment because of lack of compliance or contraindications to conventional medicines. Having a new tool that can be used by a dermatologist in a controlled environment may improve the lives for so many patients." The lead clinician of the Accure Laser System's clinical development program is Emil A. Tanghetti, MD of The Center for Dermatology and Laser Surgery in Sacramento, CA. "We see compelling histological evidence of sebaceous gland damage at depths unique to this device's mechanism of action. The technology is tremendously sophisticated, yet elegantly simple to use. I see this as a game-changer," says Dr. Tanghetti. Accure is proud to partner with Quanta System, S.p.A., based in Milan, Italy, and a subsidiary of the El.En. Group in Florence, Italy. Quanta has contributed substantial ideas, resources and expertise to the development of the Accure Laser. Paolo Salvadeo, PhD, General Manager of El.En. Group, commented, "Quanta is known globally as a leader in engineering, design, quality and precision of laser manufacturing. We are proud to be integral to the development of the Accure Laser System and look forward to cooperating with Accure on this very innovative solution for inflammatory acne." The company anticipates that the Accure Laser System will first be made available in a controlled, limited commercial release with selected board-certified dermatologists.

New Medical Research

Long-pulsed Nd: YAG laser (1064 nm) versus intralesional botulinum toxin type (A) in acne vulgaris therapy: A split face study. Ibrahim AM, Omar GAB, Hamdino M. Int J Dermatol. 2022 Dec 5. doi: 10.1111/ijd.16519. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36468835/

Background: Acne can be considered more than a cosmetic concern due to its large impact on patients' quality of life. There are various therapeutic options for inflammatory acne, but inconvenience and undesirable side effects prompted a search for more acceptable treatments. This study aimed to compare the clinical efficacy and safety of long-pulsed Nd: YAG laser 1064 nm versus intralesional botulinum toxin type-A (BTX-A) in inflammatory acne therapy. Methods: A prospective randomized split-face comparative study involved 30 patients with inflammatory acne. Each patient received long-pulsed Nd: YAG 1064 nm laser on one side, and intralesional BTX-A on the other side, monthly until improvement or maximum three sessions. Cases were assessed by acne lesions counting and grading of severity by Investigator's Global Assessment of acne (IGAs) at baseline, each session, and after 3 months follow-up. Results: A highly statistically significant improvement in lesions count and IGAs for both sides was observed, with statistically non-significant difference between both sides at end of treatment sessions. While, after 3 months follow-up, there was a more significant improvement at laser side. Conclusion: Both long-pulsed Nd: YAG laser 1064 nm and intralesional BTX-A are safe and effective for acne therapy. Nd-YAG laser has a more prolonged efficacy and lower recurrence rate than intralesional BTX-A.

A topical combination regimen of benzoyl peroxide and retinol moisturizer for mild to moderate acne. Kosmoski G, Miller D, Coret C, Atillasoy E. J Drugs Dermatol. 2022 Dec 1;21(12):1340-1346. doi: 10.36849/JDD.6845. https://pubmed.ncbi.nlm.nih.gov/36468957/

Topical therapies, in many cases over-the-counter (OTC) formulations, are available for the treatment of acne, including benzoyl peroxide (BPO), salicylic acid, and retinoids. While these agents provide therapeutic efficacy, combination regimens can offer improved outcomes due to their ability to address multiple pathways involved in acne formation, making them better suited to address the multiple factors involved in acne pathogenesis and the breadth of complexion issues associated with the condition. The present study assessed the efficacy and tolerability of a daily regimen comprised of topical low-dose (2.5%) BPO applied in the morning and topical retinol applied in the evening in 33 subjects with mild to moderate acne who completed the study. A significant reduction in global total acne count from baseline to week 12 (primary endpoint) was achieved, in addition to significant improvements in Investigator Global Assessment (IGA) of acne severity and reductions in inflammatory and non-inflammatory lesions. Treatment also significantly improved acne-complexion graded efficacy parameters (tactile surface roughness, uneven skin tone, skin blotchiness, and lack of skin clarity), and was well-tolerated, with no statistically significant ($P<0.05$) increases in objective or subjective facial irritation. Significant improvements from baseline to week 12 were observed for both self-assessment of facial skin conditions and quality of life (QoL) scores. No product-related adverse events (AEs) were observed in the study subjects.

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Intradermal injection of poly-d, l-lactic acid using microneedle fractional radiofrequency for acne scars: An open-label prospective trial. Hyeong JH, Jung JW, Seo SB, et al. Dermatol Surg. 2022 Dec 1;48(12):1306-1311. doi: 10.1097/DSS.0000000000003627. https://pubmed.ncbi.nlm.nih.gov/36449872/

Background: Treatment with filler injections using a microneedle fractional radiofrequency (MFRF) device is a promising modality with proven efficacy for acne scar treatment. Objective: To investigate the efficacy and histologic differences of intradermal injection of a filler (poly-d, l-lactic acid, PDLA) using an MFRF device for the treatment of acne scars. Methods: Patients with acne scars on both cheeks were included. Poly-d, l-lactic acid was injected via the MFRF device every 4 weeks for a total of 4 sessions. Patients were evaluated using the grading system for acne scars before each session, as well as personal satisfaction. For histologic evaluation, 2 patients (who consented) underwent a skin biopsy from the upper arm before and after the same single session. Results: After the final session, the acne scar grading (échelle d'évaluation clinique des cicatrices d'acné) scale and visual analog scale for evaluation

of satisfaction showed improvement compared with initial assessment (36.99% and 79.65% respectively [p < .001, respectively]). For histologic evaluation, biodegradation of PDLA materials and increase in collagen and elastic fibers were observed after 5 months of treatment. Conclusion: Intradermal injection of PDLA using the MFRF device could be used as an effective treatment with fewer side effects in acne scar patients with Fitzpatrick skin type III-IV.

Sulforaphene attenuates cutibacterium acnes-induced inflammation. Hwang HJ, Kim JE, Lee KW. J Microbiol Biotechnol. 2022 Nov 28;32(11):1390-1395. doi: 10.4014/jmb.2209.09051. Epub 2022 Oct 30. https://pubmed.ncbi.nlm.nih.gov/36437519/

Acne is a chronic inflammatory disease of the sebaceous gland attached to the hair follicles. Cutibacterium acnes is a major cause of inflammation caused by acne. It is well known that C. acnes secretes a lipolytic enzyme to break down lipids in sebum, and free fatty acids produced at this time accelerate the inflammatory reaction. There are several drugs used to treat acne; however, each one has various side effects. According to previous studies, sulforaphene (SFEN) has several functions associated with lipid metabolism, brain function, and antibacterial and anti-inflammatory activities. In this study, we examined the effects of SFEN on bacterial growth and inflammatory cytokine production induced by C. acnes. The results revealed that SFEN reduced the growth of C. acnes and inhibited proinflammatory cytokines in C. acnes-treated HaCaT keratinocytes through inhibiting NF-κB-related pathways. In addition, SFEN regulated the expression level of IL-1α, a representative pro-inflammatory cytokine expressed in co-cultured HaCaT keratinocytes and THP-1 monocytes induced by C. acnes. In conclusion, SFEN showed antibacterial activity against C. acnes and controlled the inflammatory response on keratinocytes and monocytes. This finding means that SFEN has potential as both a cosmetic material for acne prevention and a pharmaceutical material for acne treatment.

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Evaluation of hematological parameters in patients using systemic isotretinoin with diagnosis of acne vulgaris. Elif DS, Ugur S. J Cosmet Dermatol. 2022 Nov 27. doi: 10.1111/jocd.15532. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36437707/

Objectives: Oral isotretinoin is the most effective treatment option in patients with acne. However, it can cause various hematologic and biochemical abnormalities. This study aimed to evaluate hematologic abnormalities during oral isotretinoin treatment in patients with acne. Material and methods: In this cross-sectional study, the hematologic and inflammatory parameters of 138 patients with acne using 0.3-1 mg/kg/day oral isotretinoin for at least 6 months were retrospectively analyzed. Results: In the study, the female-to-male ratio was 2.83, and the mean age of the patients was 23.1 ± 5.8 years. At the third and sixth months of isotretinoin treatment, there was a statistically significant decrease in the neutrophil count compared to the pre-treatment values ($p = 0.003$ and $p = 0.032$, respectively). The platelet count showed the most statistically significant increase ($p < 0.001$) at the first month of treatment. The most statistically significant decrease in the neutrophil-to-lymphocyte ratio (NLR) was observed at the third month of treatment ($p < 0.001$). No significant changes were observed in hemoglobin, hematocrit, white blood cell count, mean corpuscular volume, and mean platelet volume. Conclusions: There was a decrease in neutrophils and NLR and an increase in platelets during isotretinoin treatment, and these changes were usually mild. However, it would be appropriate to monitor blood counts during treatment in patients with neutropenia or thrombocytosis.

Long-pulsed Nd:YAG laser using an "in motion" setting to treat telangiectatic rosacea. Piccolo D, Zalaudek I, Genovesi C, et al. Ann Dermatol Venereol. 2022 Nov 22;S0151-9638(22)00093-X. doi: 10.1016/j.annder.2022.09.007. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36428121/

Background: Rosacea is an inflammatory condition of the face characterized in its early stages by flushing, erythema

and telangiectasias. Objectives: We evaluate the efficacy of long-pulsed Nd:YAG laser on erythematousteleangiectasic rosacea (ETR). Methods: In a retrospective case study of 21 patients (14F, 7M) with an average age of 29 years (range 19-41), were treated with two sessions at a distance of one month, with phototype up to III (5 phototype 1, 14 phototype II, 2 phototype III) with a fluence of 20 J/cm2. Results: We observed a reduction of the erythematous component between 50% and 80% after two sessions, with an average pain score attributed to the treatment, measured by visual analogue scale (VAS), of 3. Conclusion: In this case series in which Nd:YAG laser had been used with a "'in motion" technique, we observed a reduction of the side effects and pain.
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Carbon peeling laser treatment to improve skin texture, pores and acne lesions: A retrospective study. Conforti C, Guida S, Dianzani C, et al. Medicina (Kaunas). 2022 Nov 18;58(11):1668. doi: 10.3390/medicina58111668. https://pubmed.ncbi.nlm.nih.gov/36422207/
Carbon peel laser treatment has been described for the improvement of skin texture, with pore reduction and acne lesion treatment. The technique consists of applying a carbon mask to the face for about ten minutes followed by laser irradiation with a Q-switched 1064 nm laser. This mechanism of action seems to be related to small carbon molecules binding both the corneocytes and serum within the hair follicles; the effect of the laser eliminates carbon bound to skin particles and the high temperature generated reduces sebum production by sebaceous glands and inhibits Cutibacterium acnes replication. Although this method was described 20 years ago, scientific data supporting its efficacy and safety have only recently been reported in small case series. For this reason, we performed a retrospective study including patients treated from January to May 2022 in the context of a private practice. Even if this study is limited by the low number of patients and its retrospective nature, this is the first research to show that carbon peel laser, performed with a standardized technique, is an effective and safe treatment for patients with acne lesions, showing pores and wrinkles, and is able to improve the overall skin aspect.
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The effectiveness of fractional carbondioxyde laser and microneedle radiofrequency on acne scars. Canpolat F, Koc E, Kartal SP. J Cosmet Laser Ther. 2022 Nov 17;24(6-8):103-106. doi: 10.1080/14764172.2022.2147952. Epub 2022 Nov 20. https://pubmed.ncbi.nlm.nih.gov/36403157/
Acne scars lead to physical and psychological problems for young adults therefore they should be treated effectively. Fractional carbon dioxide (FCL) and radiofrequency (FRFL) lasers have been both used for acne scars. The aim of this study was to evaluate the effectivity and satisfaction of combined FCL and FRFL treatment for acne scars and evaluate effect of these treatments especially on atrophic scar types retrospectively. A total of 41 patients with acne scars who received FCL + FRFL were included in this study. Photographs of patients before treatment and 1 month following the last treatment session were scored by the other blinded clinician, according to the ECCA acne scar scoring method. A significant decrease was noted in clinical scores after the treatment. Side effects were minimal and acceptable. When comparing atrophic scars to erythematous ones laser treatment was more effective for atrophic types. In conclusion, our findings revealed that laser treatment with FCL + FRFL for acne scars is successful, effective and comfortable. These combination is more effective in atrophic type acne scars.

Improvements in acne and skin oiliness with tazarotene 0.045% lotion in patients with oily skin. Tanghetti EA, Zeichner JA, Gold M, et al. J Dermatolog Treat. 2022 Nov 16;1-22. doi: 10.1080/09546634.2022.2147391. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36382987/
Background: Excessive sebum production is a factor in acne development. Tazarotene 0.045% lotion has demonstrated reductions in acne lesions and acne-induced sequalae. Objective: Evaluate efficacy, changes in skin

oiliness, and safety with tazarotene 0.045% lotion in participants with moderate-to-severe acne and oily skin. Methods: In two phase 3, double-blind, 12-week studies (NCT03168321; NCT03168334), participants aged ≥9 years with moderate-to-severe acne were randomized 1:1 to once-daily tazarotene 0.045% lotion or vehicle lotion (N = 1,614). This pooled, post hoc analysis included only participants self-categorized with oily skin at baseline on the Acne Quality of Life questionnaire item 19 (scores: 0 [extremely oily] to 6 [not at all oily]). Inflammatory/noninflammatory lesion counts, treatment success, skin oiliness, treatment-emergent adverse events (TEAEs), and cutaneous safety/tolerability were evaluated. Results: In all participants with oily skin (n = 793), tazarotene provided greater reductions in inflammatory/noninflammatory lesions (P<0.001, both) and greater treatment success rates versus vehicle (P<0.01) at week 12. Over two-thirds of polymeric lotion-treated participants had subjective skin oiliness reductions by week 12, with around a third reporting 'low/not' oily skin. Tazarotene TEAE rates were similar to the overall population. Conclusion: Once-daily treatment with tazarotene 0.045% polymeric emulsion lotion may help improve patient-perceived skin oiliness in those with moderate-to-severe acne.
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Topical methylene blue nanoformulation for the photodynamic therapy of acne vulgaris. Lee YD, Yang JK, Han S, et al. Arch Dermatol Res. 2022 Nov 14. doi: 10.1007/s00403-022-02464-7. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36376760/
Acne vulgaris is a common skin disease caused by multifactorial reasons involving excessive sebum secretion and inflammation by Cutibacterium acnes (C. acnes). Various conventional therapies are available for the treatment of acne vulgaris; however, topical photodynamic therapy (PDT) has attracted much attention because of its great potential for sebum-reducing, anti-inflammatory, and antimicrobial activities. Although 5-aminolevulinic acid (ALA) has been broadly used as a photosensitizer for topical PDT, it has several limitations such as long incubation time, pain, and post-inflammatory hyperpigmentation. Here, we report a biocompatible nanoformulation consisting of methylene blue and salicylic acid (MBSD), as a potent PDT and acne therapeutics, enclosed within oleic acid. Photoactivated MBSD showed antimicrobial activity against C. acnes along with long-term stability. When 24 patients with acne were treated with MBSD and light irradiation 5 times at 1-week intervals, MBSD-based PDT exhibited a remarkable reduction in acne lesions and sebum production. In addition, the therapeutic procedure was painless and safe, without any adverse events. Therefore, MBSD is a promising topical PDT agent for biocompatible, safe, and effective acne treatment.

Evaluation of subclinical atherosclerosis in rosacea patients by flow-mediated dilatation method. Caf N, Özkök Akbulut T, Can MM, et al. J Cosmet Dermatol. 2022 Nov 14. doi: 10.1111/jocd.15492. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36374628/
Background: Rosacea may contribute to the development of cardiovascular (CV) diseases by causing endothelial dysfunction (ED), which is known to be the initial step of atherosclerosis, due to its inflammatory features. Objective: This study aimed to assess ED in rosacea patients using the flow-mediated dilatation (=dilation) (FMD) method. Methods: Seventy-three rosacea patients and 73 age, gender-matched healthy volunteers were enrolled. Individuals with cardiac risk factors, pregnant, and lactating women were excluded. Demographic, clinical data and anthropometric measurements were recorded. FMD measurement was performed ultrasonographically by a cardiologist. Systolic and diastolic blood pressures (BP) were measured and hemogram, erythrocyte sedimentation rate (ESR), C-Reactive Protein (CRP), total cholesterol, triglyceride, low-density lipoprotein (LDL), high-density lipoprotein (HDL), neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), mean platelet volume (MPV), and fasting blood glucose values were assessed. Results: The FMD value was statistically lower in rosacea patients compared with healthy controls (p = 0.000). Metabolic syndrome, systolic and diastolic BPs, and plasma NLR were

higher in the rosacea group (p = 0.009, p = 0.000, p = 0.000, p = 0.000, respectively). According to the multivariate linear regression analysis, rosacea type significantly predicted FMD. Conclusions: Rosacea is not only a disease limited to the skin, but it may also have systemic involvement. A significant difference was found between FMD values measured in between the case and control groups, suggesting rosacea may have an atherogenic effect. Possible cardiac risks should be considered in rosacea patients, and further evaluation could be warranted.
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Extracellular electrons transferred from honey probiotic Bacillus circulans inhibits inflammatory acne vulgaris. Kao HJ, Balasubramaniam A, Chen CC, Huang CM. Sci Rep. 2022 Nov 10;12(1):19217. doi: 10.1038/s41598-022-23848-9. https://pubmed.ncbi.nlm.nih.gov/36357775/
Bacillus circulans (B. circulans) is widely used as an electrogenic bacterium in microbial fuel cell (MFC) technology. This study evaluated whether B. circulans can ferment glucose to generate electricity and mitigate the effects of human skin pathogens. The electricity production of B. circulans was examined by measuring the voltage difference and verified using a ferrozine assay in vitro. To investigate the fermentation effects of B. circulans on inhibition of human skin pathogens, Cutibacterium acnes (C. acnes) was injected intradermally into mice ears to induce an inflammatory response. The results revealed that the glucose-B. circulans co-culture enhanced electricity production and significantly suppressed C. acnes growth. The addition of roseoflavin to inhibit flavin production considerably reduced the electrical energy generated by B. circulans through metabolism and, in vivo test, recovered C. acnes count and macrophage inflammatory protein 2 (MIP-2) levels. This suggests that B. circulans can generate electrons that affect the growth of C. acnes through flavin-mediated electron transfer and alleviate the resultant inflammatory response. Our findings demonstrate that probiotics separated from natural substances and antimicrobial methods of generating electrical energy through carbon source fermentation can help in the treatment of bacterial infections.
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Effect of 30% supramolecular salicylic acid peel on skin microbiota and inflammation in patients with moderate-to-severe acne vulgaris. Shao X, Chen Y, Zhang L, et al. Dermatol Ther (Heidelb). 2022 Nov 9. doi: 10.1007/s13555-022-00844-5. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36350527/
Introduction: Thirty-percent supramolecular salicylic acid (SSA), a modified salicylic acid preparation, is a safe and effective treatment for moderate-to-severe acne vulgaris (AV). However, its mechanism of action remains unclear. We aimed to analyze the role of 30% SSA peels on skin microbiota and inflammation in patients with moderate-to-severe AV. Methods: A total of 28 patients were enrolled and received 30% SSA peels biweekly for 2 months. The Global Acne Grading System (GAGS) score, skin water content, transepidermal water loss (TEWL), pH, and sebum levels were assessed. Skin microbial samples and perilesional skin biopsies were obtained at the onset and 2 weeks after treatment completion. Samples were characterized using a high-throughput sequencing approach targeting a portion of the bacterial 16S ribosomal RNA gene. Results: After treatment, patients showed a significant improvement in their GAGS score and skin barrier indicators ($P < 0.05$). The GAGS score was positively associated with both the sebum concentration ($R = 0.3$, $P = 0.027$) and pH ($R = 0.39$, $P = 0.003$). Increased expression of caveolin-1 and decreased expression of interleukin (IL)-1a, IL-6, IL-17, transforming growth factor beta, and toll-like receptor 2 were observed in the skin tissue after treatment. The richness and evenness of the cutaneous microbiome decreased after treatment and the Staphylococcus proportion decreased significantly ($P < 0.05$), whereas the Propionibacterium proportion tended to decrease ($P = 0.066$). Conclusions: On the basis of analyses of the skin barrier and microbiota, we speculate that the 30% SSA peel may have a therapeutic effect in patients with moderate-to-severe AV by improving the skin microenvironment and modulating the skin microbiome, thus reducing local inflammation.
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A pilot study of clindamycin phosphate 1.2% and benzoyl peroxide 3.75% combination gel in the treatment of perimenstrual acne. Marushchak O, Gagliotti M, Vekaria AS, Goldenberg G. J Clin Aesthet Dermatol. 2022 Nov;15(11):18-21. https://pubmed.ncbi.nlm.nih.gov/36381180/

Background: The current mainstay treatment of perimenstrual acne consists of systemic hormonal therapies, which can be problematic due to their side effects, stigma, or pill burden. Topical treatments are often used as well; however, data on their efficacy in treating this type of hormonal acne are limited. Objective: We sought to evaluate the efficacy and tolerability of clindamycin phosphate and benzoyl peroxide 1.2%/3.75% combination gel in treating perimenstrual acne in adult women. Methods: The single-group interventional pilot study was performed on 22 adult female subjects with perimenstrual acne. The subjects applied the investigational drug daily and were assessed every 14 days for a total of 99 days. Treatment success was evaluated by the investigators using the acne physician global assessment (PGA) scoring system. Drug tolerability assessment was based on the subject-reported adverse events, as well as physician-evaluated erythema, scaling, and dryness. Results: The study demonstrated a significant improvement in PGA score and lesion count, as well as patient-reported outcomes. The medication was well-tolerated in all subjects. Limitations: Limited sample size; lack of concurrent comparison group. Conclusion: Clindamycin phosphate and benzoyl peroxide 1.2%/3.75% combination gel presents an important topical option for perimenstrual acne.

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Characteristics of rosacea and similar diseases in patients wearing face masks. Nobeyama Y, Aihara Y, Asahina A. Skin Appendage Disord. 2022 Nov;8(6):462-468. doi: 10.1159/000525024. https://pubmed.ncbi.nlm.nih.gov/36407649/

Introduction: The present study aimed to obtain fundamental data, including climate conditions and Demodex mites, on rosacea and similar diseases in the situation where the wearing of face masks is mandatory due to the coronavirus disease 2019 pandemic. Methods: We enrolled 86 Japanese patients habitually wearing face masks with rosacea and similar diseases. Disease severity was assessed using the Investigator Global Assessment. The presence of Demodex mites was examined microscopically. Treatment involved acaricidal and antibiotic agents. Results: The numbers of male and female patients enrolled were 11 and 75, respectively. Among these patients, 85 (98.8%), 57 (66.3%), and 76 (88.4%) had rosacea, rosacea-like dermatitis (RLD), and demodicosis, respectively. The monthly number of patients with rosacea and demodicosis showed two peaks from May to June and in October, during which monthly mean temperature was approximately 20°C (68°F). Improvement rates in rosacea, RLD, and demodicosis were significantly higher when Demodex mites were no longer detected after treatment. Conclusion: The present results suggest that a season with a mean temperature of approximately 20°C is a risk factor for rosacea and similar diseases in individuals wearing face masks in Japan, and a decrease in Demodex mites is associated with the attenuation of symptoms.

Clinical Reviews

Treatment of acne vulgaris during pregnancy and lactation: A narrative review. Ly S, Kamal K, Manjaly P, et al. Dermatol Ther (Heidelb). 2022 Nov 29. doi: 10.1007/s13555-022-00854-3. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36447117/

Acne vulgaris frequently affects women during pregnancy and lactation. Hormonal and physiologic changes in pregnancy contribute to the pathogenesis of acne during the various phases of pregnancy. Several effective acne treatments commonly prescribed in the general population are contraindicated during pregnancy or lactation. There is a lack of guidelines and updated resources on acne management in these populations. In this narrative review, we summarize existing evidence on the safety and efficacy of acne treatments during pregnancy and breastfeeding. Acne

management in pregnancy and lactation should follow a stepwise approach based on severity to minimize risk. Topical therapies, such as benzoyl peroxide, azelaic acid, or keratolytics, can be used to treat mild-to-moderate disease. Moderate-to-severe acne may require systemic treatments, including penicillin, amoxicillin, cephalexin, and erythromycin, with special consideration for trimester-specific teratogenicity of medications and relevant medical history of the mother and infant. For refractory cases, oral or intralesional corticosteroids as well as laser and light therapies may be considered. This review provides an updated reference to aid patient-physician decision-making on acne management in these special populations.
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Advances in pharmacotherapy for rosacea: What is the current state of the art? Dall'Oglio F, Nasca MR, Gerbino C, Micali G. Expert Opin Pharmacother. 2022 Nov;23(16):1845-1854. doi: 10.1080/14656566.2022.2142907. Epub 2022 Nov 5. https://pubmed.ncbi.nlm.nih.gov/36330970/
Introduction: Rosacea is a chronic and relapsing facial dermatosis that encompasses a wide spectrum of clinical phenotypes (transient/persistent erythema, telangiectasias, papules/pustules, edema, phymatous changes, and ocular symptoms) often with uncomfortable symptoms such as flushing, pain, burning, edema, and dryness. Current pharmacological treatment includes topical agents, spanning from several conventional (azelaic acid, metronidazole, sodium sulfacetamide) to new ones (brimonidine, oxymetazoline, ivermectine, minocycline), and systemic agents (doxycycline 40 mg modified-release), all Food and Drug Administration approved. Areas covered: The aim of our article is to review the state of art of pharmacological treatment, either as monotherapy or in combination therapy, tailored to the most common rosacea phenotypes (persistent erythema, inflammatory papules/pustules). Other off-label topical or systemic drugs and several adjuvant phytotherapeutic agents are considered. Expert opinion: Combined therapies to target different phenotypes, when present in the same patient, represent one of the major achievements in the management of vascular and inflammatory papules and pustules of rosacea. Future investigations should be addressed to early inflammatory phyma or ocular rosacea, which have actually been neglected. Finally, there is still an ongoing need for therapeutic interventions able to relieve symptoms and social burden, all factors that greatly contribute to improve rosacea quality of life.

Role of topical spironolactone in the treatment of acne: A systematic review of clinical trials - Does this therapy open a path towards favorable outcomes? Rehan ST, Khan Z, Abbas S, et al. J Dermatol. 2022 Nov 22. doi: 10.1111/1346-8138.16637. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36412248/
Acne vulgaris is the eighth most common disease worldwide and presents with inflammatory and noninflammatory skin lesions along with other dermal abnormalities. Oral spironolactone is used for treating acne vulgaris due to its antiandrogenic properties and inhibition of sebogenesis. Recent evidence shows that spironolactone in topical form has similar efficacy to its oral form with comparatively fewer adverse events associated with its use. However, to establish an evidence-based understanding, this systematic review aims to investigate the efficacy and safety of topical spironolactone in the treatment of acne vulgaris. PubMed, ClinicalTrials.gov, Cochrane library, and Google Scholar were comprehensively searched from the date of inception till March 18, 2022 All the clinical trials experimenting with the role of topical spironolactone in the treatment of acne were included. Articles examining the effects of oral spironolactone or other topical agents were excluded. The Cochrane risk of bias assessment tool (RoB 2.0, version 2019) was used to assess the risk of bias in each study. The study findings have been reported in line with PRISMA 2020 guidelines. The literature search yielded 600 articles. Five clinical trials with 195 patients were included in this review. Out of the five trials, two showed a high risk of bias while three had overall some concerns. Patients treated with topical spironolactone showed a significant decrease in the number of papules ($p = 0.004$), closed comedones ($p < 0.05$), and lesions ($p < 0.05$). Compared to placebo, treatment with 5% spironolactone showed

a significant decrease in total lesion count ($p = 0.007$). In addition, 2% spironolactone showed efficacy over clindamycin and reduced the number of comedones ($p < 0.0001$), papules ($p < 0.0001$), and pustules ($p < 0.0001$) while the acne severity index was also considerably lowered ($p < 0.0001$). Spironolactone was not found to affect significant skin hydration, sebum, elasticity, melanin, and redness ($p > 0.05$). Topical spironolactone yields better results than other first-line treatments for acne and displays fewer side effects. However, further large-scale clinical trials are required before spironolactone can be used as the preferred treatment in the clinical management of acne.

Expert consensus on holistic skin care routine: Focus on acne, rosacea, atopic dermatitis, and sensitive skin syndrome. Goh CL, Wu Y, Welsh B, et al. J Cosmet Dermatol. 2022 Nov 21. doi: 10.1111/jocd.15519. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36409588/

Background: Treatment, cleansing, moisturizing, and photoprotection are four major components of holistic skin care for dermatological conditions. While treatment (T) is recognized as a key component in the management of dermatological conditions, there is a lack of practical guidance on the adjunctive role of cleansing, moisturizing, and photoprotection ("CMP"). Limited patient knowledge, confusion over product selection, and lack of guidance on how to choose and use CMP skin care products (in conjunction with pharmacological therapy) are the main barriers to establishing a holistic skin care routine for dermatological conditions. Aims: This study aimed to review current clinical evidence, identify gaps, and provide practical guidance on conceptualization and implementation of CMP routine in the management of sensitive skin due to underlying acne, atopic dermatitis, or rosacea, including conditions with idiopathic causes referred to as idiopathic sensitive skin syndrome. Methods: An expert panel comprising of 10 dermatologists from Australia, China, Hong Kong, Taiwan, India, Indonesia, Philippines, Singapore, South Korea, and Thailand convened to develop consensus statements on holistic skin care in acne, rosacea, atopic dermatitis, and idiopathic sensitive skin syndrome using the Delphi approach. Results: Consensus was defined as ≥80% of panel rating statement as ≥8 or median rating of ≥8. The final statements were collated to develop consensus recommendations on holistic skin care. Conclusion: A dermatologist-guided holistic skin care routine is essential to improve patient confidence and reduce confusion over product selection. The consensus recommendations presented here highlight the importance of cleansing, moisturization, and photoprotection in holistic skin care and how it can be utilized as a communication tool for physicians and patients to achieve overall better patient compliance, satisfaction, and treatment outcomes.

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A systematic review and meta-analysis of randomized clinical trials of fire needle combined with ALA-PDT for the treatment of moderate-to- severe acne. Tang L, Fu Q, Zhou ZW, et al. Photodiagnosis Photodyn Ther. 2022 Nov 13;103200. doi: 10.1016/j.pdpdt.2022.103200. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/36384211/

Background: Moderate-to-severe acne affects people's health and quality of life. As first-line therapeutic medications, isotretinoin and antibiotics was used to treat moderate-to-severe acne. However, some patient does not tolerate pills. Thus, It is important to improve therapeutic tools for those people. Now, there are more and more clinical studies on the treatment of moderate-to-severe acne treated by the combination of fire needle and ALA-PDT, which provides us with a new idea for the treatment of moderate-to-severe acne. It is necessary to assess the clinical evidence supporting the use of fire needle combined with ALA-PDT in the treatment of moderate to severe acne in order to offer a foundation for clinical practice. This study evaluated the safety and effectiveness in the treatment of moderate-to-severe acne by the combination with fire needle and ALA-PDT. Methods: By July 2022, search PubMed, the Chinese Biomedical Literature Database, the Cochrane Library, the Chinese Scientific Journal Database, the China National Knowledge Infrastructure, the Web of Science Database, Embase Database Database and WanFang Database. To gather RCTs of fire needle combination with ALA-PDT for the treatment of moderate-to-severe acne. A

meta-analysis was performed according to the Handbook guidelines of Cochrane. Study selection, data extraction, and risk of bias evaluation were all governed by two reviewers, with the help of a third reviewer if needed. The meta-analysis was carried out with Review Manager Software 5.4. Results: There were a total of 9 RCTs with 862 participants. Clinical efficacy was recorded in nine trials, GAGS score was published in three studies, adverse events were documented in five studies, and recurrence rate was reported in two studies. Treatment lasted between four and twelve weeks. Combination therapy outperformed monotherapy in terms of clinical efficacy (OR:3.73; 95% CI:2.51, 5.53; p<0.00001). Additional subgroup analysis revealed that the combination therapy outperformed ALA-PDT alone in terms of clinical effect (OR: 3.20; 95% CI: 2.05, 4.99; p<0.00001). Additionally, combination therapy outperformed fire needle alone in terms of clinical efficacy (OR:3.74; 95% CI: 2.55, 5.48; p<0.00001). Studies have also indicated that combination therapy has a stronger benefit in lowering the GAGS score (MD:-3.35; 95% CI:-4.62, -2.09; p<0.00001). Additionally, there was no discernible difference in the occurrence of adverse events between the combined treatments and monotherapy (OR:1.43; 95% CI: 0.76, 2.69; p=0.26), and the combined treatment was able to control the recurrence rate (OR:0.18; 95% CI: 0.07, 0.45; P=0.0002). Conclusions: The efficacy of fire needle combined with ALA-PDT in the treatment of moderate-to-severe acne is superior to that of ALA-PDT or fire needle alone. However, the conclusions of this study must be interpreted carefully due to the high risk and ambiguity of bias of the included trials.

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Acne vulgaris in skin of color: A systematic review of the effectiveness and tolerability of current treatments. Pathmarajah P, Peterknecht E, Cheung K, et al. J Clin Aesthet Dermatol. 2022 Nov;15(11):43-68. https://pubmed.ncbi.nlm.nih.gov/36381183/

Acne vulgaris is a common dermatosis frequently encountered in general dermatology and presents significant health-related quality of life and psychological challenges. Clinical studies on acne vulgaris in skin of color are limited; thus, it is likely that treatment recommendations to patients with darker skin types are drawn from trial data based on Caucasian skin. The aim of this study was to systematically review the effectiveness and tolerability of treatments used to treat acne vulgaris in patients with skin of color. A literature search was performed in the PubMed, Embase, and Scopus bibliographic databases, with a total of 1,477 retrieved articles, of which 1,316 were excluded after initial screening. Of the 93 studies assessed, 55 studies met our inclusion criteria (28 randomized controlled trials, 4 cohort studies, 6 post-hoc analyses, and 12 other interventional trials). The studies reported a total of 21,202 patients. Most studies explored topical therapies (23 studies) and photodynamic therapy (13 studies). Other treatments included laser/light therapy, systemic therapy, chemical peels, and radiofrequency and microneedling. In general, the different treatment modalities offered an improvement in lesion count and were well tolerated, with no report of major adverse events. However, due to limited evidence, we were unable to draw firm conclusions from the results of this review to guide decisions in practice, particularly with respect to long-term outcomes, in patients with skin of color and acne vulgaris.

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