AARS HOT TOPICS MEMBER NEWSLETTER

July 1, 2019 Issue

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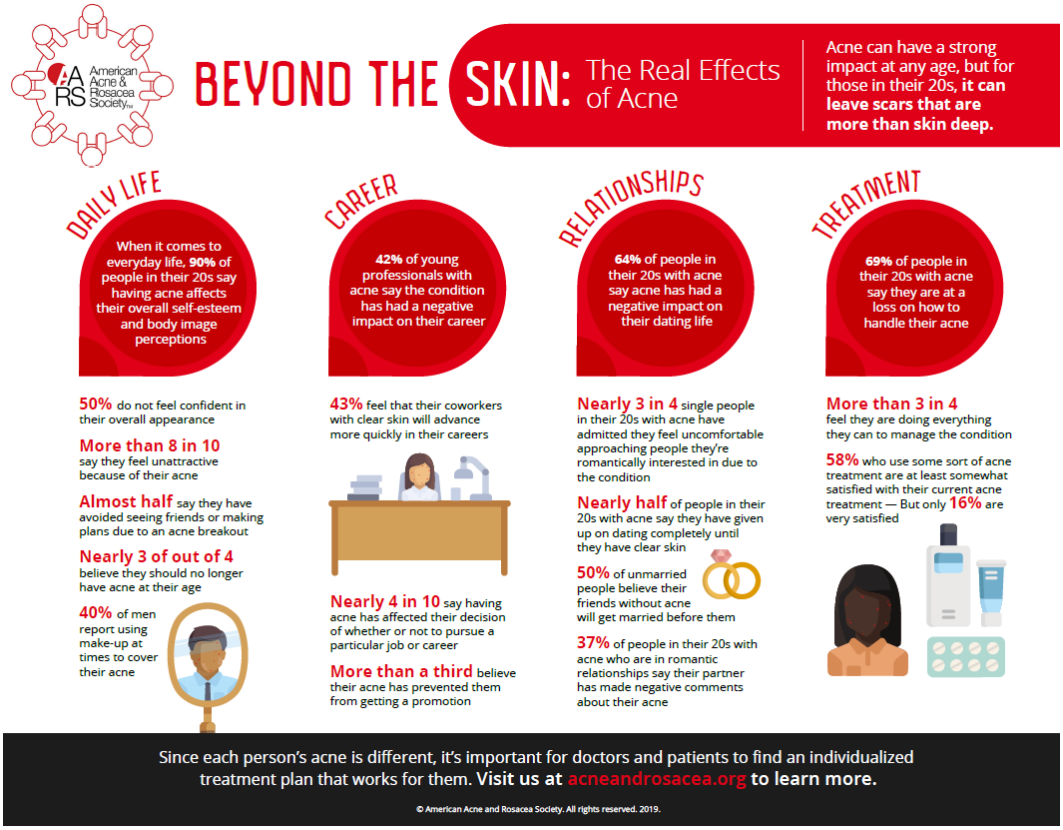
Industry News

AARS Releases New Data on the Impact of Acne on Young Professionals.

The AARS launched several research updates to mark the end of Acne Awareness Month and will continue through the month of July sharing that information among news outlets and in social media. Follow and like our posts! #acneandrosacea



Phase 3b/4 study ANSWERs rosacea therapy questions. June 26, 2019. DermWire. Practical Dermatology. https://practicaldermatology.com/news/phase-3b4-study-answers-rosacea-therapy-questions?c4src=news-landing:feed

Results of the phase 3b/4 ANSWER study, recently published online in the Journal of the American Academy of Dermatology, show that concomitant use of Oracea Capsules and Soolantra Cream provided significant improvement in terms of percentage reduction in inflammatory lesions from baseline and the proportion of patients achieving 100 percent lesion clearance at week 12, compared to monotherapy with Soolantra Cream. Overall combination therapy was shown to improve treatment results in people with severe rosacea. Publication of the complete data set follows the presentation of topline data from the ANSWER study in a poster session at the 2019 American Academy of Dermatology (AAD) Annual Meeting in March. ANSWER is the first randomized clinical trial to compare the combination of Oracea® (doxycycline, USP) 40 mg Capsules (a modified-release capsule of doxycycline and the only approved oral treatment for inflammatory rosacea lesions) plus Soolantra® (ivermectin) Cream, 1% (indicated for the inflammatory lesions of rosacea) with Soolantra Cream administered as monotherapy. The data is consistent with the efficacy and safety seen in pivotal trials of Oracea Capsules and Soolantra Cream.

New Medical Research

Relationship between quinolone use and resistance of Staphylococcus epidermidis in patients with acne vulgaris. Nakase K, Yoshida A, Saita H, et al. J Dermatol. 2019 Jun 28. doi: 10.1111/1346-8138.15000. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31254314

Staphylococcus epidermidis is a bacterium known to inhabit the skin. In treatment of acne vulgaris, the cutaneous milieu is exposed to oral or topical antimicrobials. We previously reported that the antimicrobial resistance of Cutibacterium acnes isolated from acne patients is affected by antimicrobial use. The aim of this study was to investigate the relationship between quinolone use and resistance in skin bacteria, particularly S. epidermidis, from acne patients. A total of 92 and 87 S. epidermidis strains isolated from clinic patients and hospital outpatients with acne vulgaris, respectively, were tested. No significant difference was found between the prevalence of methicillin-resistant S. epidermidis (MRSE) strains from clinic patients (37.0%) and hospital outpatients (39.1%). The MRSE strains (20.6%, 14/68 strains) showed a significantly higher ratio of high-level levofloxacin resistance (minimum inhibitory concentrations were 64 to ≥256 μg/mL) compared with methicillin-susceptible S. epidermidis strains (2.7%, 3/111 strains) ($P < 0.01$). The rate of levofloxacin resistance in C. acnes strains, which were isolated from the same samples of acne patients, showed a strong positive correlation with that in S. epidermidis strains ($r = 0.93$, $P < 0.01$). The high-level levofloxacin-resistant strains were frequently found in patients with history of quinolone use compared with those without ($P < 0.01$). Our data showed for the first time that antimicrobial administration for acne treatment affects the antimicrobial resistance in not only C. acnes but also S. epidermidis. Thus, caution should be exercised in antimicrobial use for acne treatment to prevent increasing antimicrobial resistance in these species.

Treatment of atrophic acne scars using autologous platelet-rich plasma vs combined subcision and autologous platelet-rich plasma: a split-face comparative study. Hassan AS, El-Hawary MS, Abdel Raheem HM, et al. J Cosmet Dermatol. 2019 Jun 26. doi: 10.1111/jocd.13048. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31241854

Background: Multiple therapeutic approaches are usually required when treating atrophic acne scars. Subcision was reported to be of value in improving rolling scars. Autologous platelet-rich plasma (PRP) has recently been proposed as an adjuvant treatment option for atrophic acne scars with few reports evaluating its efficacy. Objective: Our objective was to compare the effect of intradermal injection of PRP vs combined PRP and subcision in the treatment of atrophic acne scars. Methods: Thirty patients with bilateral atrophic acne scars were enrolled. Each patient received three monthly sessions. Each side of the face was randomly treated either with intradermal PRP alone or with combined treatment with subcision followed by PRP injection. Patients were assessed at 3 and 6 months following the last treatment session. Evaluation of serial photographs was performed by two blinded investigators. Results: Platelet-rich plasma alone showed a better response, fewer side effects, and shorter downtime compared to combined subcision and PRP. Conclusion: Autologous PRP injection can be a therapeutic option in the treatment of atrophic acne scars, with fewer complications and better tolerability than combined subcision and autologous PRP.

Long-term isotretinoin use does not cause parenchymal liver change: ultrasonographic study in 50 patients. Aktas H, Ertugrul G, Parlak M, Unal M. Dermatol Ther. 2019 Jun 26:e13012. doi: 10.1111/dth.13012. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31241229

Objectives: The effect of isotretinoin on liver enzymes and lipid profile is reported as rare and reversible. However, possible parenchymal liver changes have not been demonstrated so far. The aim of this study was to evaluate the ultrasonography findings of the liver in patients receiving long-term isotretinoin therapy. Method: We examined ultrasonographic findings of the liver together with serum ALT, AST, total cholesterol and triglyceride levels in fifty consecutive patients who have taken isotretinoin 10-40 mg daily for at least six months between January 2017 to December 2017. Results: Of 50 patients examined, 40 were female, 10 were male. Mean age of the patients was 24.8 years. Five patients aged between 42 and 62 were found to have grade 1 hepatosteatosis. Despite a moderate elevation, serum ALT, AST, total cholesterol and triglyceride levels were in normal range in these five patients. Moreover, one patient had elevated ALT, and one another patient had elevated triglyceride level although both have normal liver ultrasonographic findings. Conclusions: Isotretinoin did not cause parenchymal liver changes as well as serum ALT, AST, total cholesterol and triglyceride levels in patients who take it 10-40 mg daily for at least six months.

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Second to fourth digit ratio in female patients with acne vulgaris: could it be a predictor of androgen receptor status? Farag AGA, Shoiab MA, Samaka R, et al. Indian J Dermatol Venereol Leprol. 2019 Jun 24. doi: 10.4103/ijdvl.IJDVL_35_18. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31249215

Background: Second to fourth digit (2D:4D) ratio is the ratio of index to ring fingers length. It reflects prenatal androgen exposure and sensitivity. Androgens are important in the pathogenesis of acne vulgaris, this ratio may therefore be of significance in determining the expression of androgen receptors. Aim: To investigate the relationship between second to fourth digit ratio and androgen receptor expression in female patients with acne vulgaris and to assess its association with clinical aspects of acne vulgaris. Methods: Females patients (n = 352) with different degrees of acne vulgaris severity and 168 age-matched females were enrolled. Right, left and total second to fourth digit ratios were calculated. Biopsies from all participants were processed for androgen receptor expression by immunohistochemical method. Results: Right, left and total second to fourth digit ratios were significantly lower in acne vulgaris patients than controls ($P < 0.001$ for all), and each of them had a significant negative correlation with duration of acne vulgaris ($P < 0.001$; $P = 0.013$; $P < 0.001$, respectively). Androgen receptors were detected in epidermal keratinocytes, hair follicles, sebaceous glands and fibroblasts. Right second to fourth digit ratio showed a negative correlation with androgen receptor H score of keratinocytes ($r = -0.28$;$P = 0.02$), hair follicles ($r = -0.22$;$P = 0.05$) and fibroblasts ($r = -0.37$;$P = 0.001$), while left second to fourth digit ratio demonstrated negative correlation with androgen receptor H score of sebocytes ($r = -0.397$;$P < 0.000$) only. Limitations: Lack of follow-up and absence of male participants were the main limitations of this study. Conclusion: A masculine second to fourth digit ratio in female patients could anticipate acne vulgaris development, its duration and severity. Moreover, this ratio is associated with an upregulation of cutaneous androgen receptors. Taken together, second to fourth digit ratio could help in designing plans for treatment of acne vulgaris.

Selective Ah receptor ligands mediate enhanced SREBP1 proteolysis to restrict lipogenesis in sebocytes. Muku GE, Blazanin N, Dong F, et al. Toxicol Sci. 2019 Jun 21. pii: kfz140. doi: 10.1093/toxsci/kfz140. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31225620

The aryl hydrocarbon receptor (AHR) mediates 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (TCDD) induced toxicity that can lead to chloracne in humans. A characteristic of chloracne, in contrast to acne vulgaris, is shrinkage or loss of sebaceous glands. Acne vulgaris, on the other hand, is often accompanied by excessive sebum production. Here, we examined the role of AHR in lipid synthesis in human sebocytes using distinct classes of AHR ligands. Modulation of AHR activity attenuated the expression of lipogenic genes and key pro-inflammatory markers in the absence of canonical DRE-driven transcription of the AHR target gene CYP1A1. Furthermore, topical treatment with TCDD, which mediates DRE-dependent activity, and SGA360, which fails to induce DRE-mediated responses, both exhibited a decrease in the size of sebaceous glands and the number of sebocytes within each gland in the skin. To elucidate the mechanism of AHR-mediated repression of lipid synthesis, we demonstrated that selective AHR modulators, SGA360 and SGA315 increased the protein turnover of the mature sterol regulatory element-binding protein (mSREBP-1), the principal transcriptional regulator of the fatty acid synthesis pathway. Interestingly, selective AHR ligand treatment significantly activated the AMPK-dependent kinase (AMPK) in sebocytes. Moreover, we demonstrated an inverse correlation between the active AMPK and the mSREBP-1 protein, which is consistent with the previously reported role of AMPK in inhibiting cleavage of SREBP-1. Overall, our findings indicate a DRE-independent function of selective AHR ligands in modulating lipid synthesis in human sebocytes, which might raise the possibility of using AHR as a therapeutic target for treatment of acne.

Long-term effectiveness and safety of up to 48 weeks' treatment with topical adapalene 0.3%/benzoyl peroxide 2.5% gel in the prevention and reduction of atrophic acne scars in moderate and severe facial acne. Dréno B, Bissonnette R, Gagné-Henley A, et al. Am J Clin Dermatol. 2019 Jun 17. doi: 10.1007/s40257-019-00454-6. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31209851

Background: Scarring is a frequent consequence of acne. Objectives: Our objective was to evaluate the effect of up to 48 weeks' treatment with adapalene 0.3%/benzoyl peroxide 2.5% (A0.3/BPO2.5) gel on atrophic scars in moderate or severe acne vulgaris. Methods: In Part 1 of this two-part study, A0.3/BPO2.5 gel or vehicle was applied on each half-face for 24 weeks in a randomized, investigator-blinded, split-face design. Part 2 was a 24-week, open-label extension phase during which A0.3/BPO2.5 gel was applied on both sides of the face. Assessments included investigator atrophic acne scar count, Scar Global Assessment (SGA), acne lesion count, local tolerability, and safety. Results: Of the 45 subjects entering Part 2, 41 completed the 48-week study. At baseline (Part 1), most subjects had moderate acne (93.3%) with mild scars (62.2%). The scar count decrease from baseline was 21.7% at week 24 and 26.9% at week 48 on the half-face treated for 48 weeks with A0.3/BPO2.5. For the half-face treated with vehicle followed by 24 weeks' A0.3/BPO2.5, scar count increased by 16.7% at week 24 (under vehicle) and decreased by 22.7% between weeks 24 and 48. The half-face that received 48 weeks' A0.3/BPO2.5 had a lower final atrophic scar count (mean 8.4 vs. 9.9 for the half-face with 24 weeks' vehicle then 24 weeks' A0.3/BPO2.5) and a higher percentage of SGA clear/almost clear. High reductions in acne lesions between baseline and week 48 were observed for both sides of the face. Long-term treatment with A0.3/BPO2.5 was safe and well-tolerated. Conclusions: Reductions in atrophic acne scars and acne lesions observed after 24 weeks of treatment with A0.3/BPO2.5 gel were maintained with treatment up to 48 weeks. The additional improvement in atrophic scar count with 48 weeks' A0.3/BPO2.5 treatment, compared to delayed application at 24 weeks, highlights the importance of early initiation of effective acne treatment to prevent and reduce the formation of acne scars. Trial registration: ClinicalTrials.gov identifier NCT02735421.

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Evaluation of EGFR inhibitor-mediated acneiform skin toxicity within the double-blind randomized EVITA trial: a thorough gender-specific analysis using the WoMo score. Gaiser MR, Lorenzen S, Merx K, et al. Cancer Med. 2019 Jun 14. doi: 10.1002/cam4.2132. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31199595

Acne-like skin reactions frequently occur in patients undergoing treatment with drugs inhibiting the epidermal growth factor receptor. Recently, the effects of vitamin K1 containing cream (Reconval K1) as prophylactic skin treatment in addition to doxycycline were explored in a double-blind randomized phase II trial (EVITA) in patients with metastatic colorectal cancer receiving cetuximab. EVITA demonstrated a trend towards less severe skin rash in Reconval K1-treated patients using the tripartite WoMo skin reaction grading score as a thorough tool for quantification of drug related skin reactions. This gender-specific analysis of the EVITA trial evaluated the application of the WoMo score for assessment of epidermal growth factor receptor (EGFR)-related skin toxicities according to treatment arm and gender. To show the robustness of results parametric and non-parametric statistical analyses were conducted. All three parts of the WoMo score independently demonstrated the superiority of the treatment arm (Reconval K1) regarding a significant reduction in acneiform skin reactions in women. Men did not benefit from Reconval K1 cream at any time point in none of the WoMo score analyses. The treatment effect in women was confirmed by the use of skin rash categories based on the final WoMo overall score and mixed effect longitudinal multiple linear regression analysis. The WoMo score represents a sensitive tool for studies exploiting treatments against EGFR mediated acne-like skin rash. Part C of the WoMo score seems to be sufficient for quantification of drug related skin toxicities in further studies. Standard WoMo skin reaction score values for future studies are provided.

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The clinical utility of laboratory monitoring during isotretinoin therapy for acne and changes to monitoring practices over time. Barbieri JS, Shin DB, Wang S, et al. J Am Acad Dermatol. 2019 Jun 19. pii: S0190-9622(19)30989-2. doi: 10.1016/j.jaad.2019.06.025. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31228528

Background: Due to concerns about hypertriglyceridemia, liver enzyme abnormalities, and leukopenia during

isotretinoin therapy for acne, patients are often followed closely with routine laboratory monitoring, although the value of this practice has been questioned. Methods: We conducted a cohort study of patients receiving isotretinoin for acne between January 1, 2008 and June 30, 2017 using the OptumInsights Electronic Health Record Database to evaluate the frequency of laboratory abnormalities. Poisson regression was used to evaluate for changes to the frequency of routine laboratory monitoring over time. Results: Among 1,863 patients treated with isotretinoin, grade 3 or greater triglyceride and liver function testing abnormalities were noted in fewer than 1% and 0.5% of patients screened, respectively. No grade 3 or greater cholesterol or complete blood count abnormalities were observed. There were no meaningful changes in the frequency of laboratory monitoring over time. Conclusions: and Relevance: While laboratory abnormalities are rare and often do not influence management, frequent laboratory monitoring remains a common practice. There are opportunities to improve the quality of care among patients being treated with isotretinoin for acne by reducing the frequency of lipid and liver function monitoring and by eliminating complete blood count monitoring.

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Is mean platelet volume an inflammatory marker in acne patients treated with isotretinoin? Tamer F, Yuksel ME, Avcı E. Acta Dermatovenerol Alp Pannonica Adriat. 2019 Jun;28(2):65-69.
https://www.ncbi.nlm.nih.gov/pubmed/31233169

Introduction: Isotretinoin is a commonly used systemic retinoid for treating acne. However, isotretinoin may lead to elevated serum levels of triglycerides and cholesterol, and it may affect liver function tests. Moreover, the effect of isotretinoin on hematological parameters remains controversial. This study examines changes in the blood chemistry panel, hematological parameters, and inflammation biomarkers of patients diagnosed with acne and treated with isotretinoin. Methods: The study included 70 patients (59 females and 11 males, between ages 18 and 37) with moderate to severe acne vulgaris treated with isotretinoin. The medical records and laboratory findings of the participants were reviewed retrospectively between March 2017 and September 2018. All the patients whose necessary laboratory test results could be obtained from the collected data were included in the study. Results: Serum total cholesterol, HDL, LDL, triglyceride, mean corpuscular hemoglobin levels, and platelet/lymphocyte ratio increased, whereas white blood cell count and mean platelet volume ($p = 0.036$) decreased after isotretinoin treatment. Conclusions: The results of this study revealed that mean platelet volume decreased significantly 3 months after the initiation of isotretinoin treatment. Therefore, we suggest considering mean platelet volume as an inflammatory marker in patients with acne treated with isotretinoin. However, this research should be replicated under more randomized conditions in a prospective study to reach a definitive conclusion.

A phase 2, multicenter, double-blind, randomized, vehicle-controlled clinical study to compare the safety and efficacy of a novel tazarotene 0.045% lotion and tazarotene 0.1% cream in the treatment of moderate-to-severe acne vulgaris. Tanghetti EA, Kircik LH, Green LJ, et al. J Drugs Dermatol. 2019 Jun 1;18(6):542. https://www.ncbi.nlm.nih.gov/pubmed/31251546

Background: Tazarotene has been extensively studied in clinical trials and is widely used to treat acne vulgaris (acne). Irritation potential has limited its use. Objective: To compare efficacy, safety, and tolerability of a novel formulation tazarotene 0.045% lotion based on polymeric emulsion technology, and tazarotene 0.1% cream in patients with moderate-to-severe acne. Methods: A total of 210 patients, 12 years and older were randomized to receive tazarotene 0.045% lotion, tazarotene 0.1% cream, or respective vehicle in double-blind, randomized, vehicle-controlled, 12-week study evaluating safety and efficacy (inflammatory and noninflammatory lesion counts and using Evaluator Global Severity Scores [EGSS]). In addition, patients completed a patient satisfaction survey (PSS), and acne-specific quality of life (QoL) questionnaire. Safety and cutaneous tolerability were assessed throughout. Results: A novel tazarotene 0.045% lotion demonstrated statistically significant superiority to vehicle in reducing inflammatory and noninflammatory lesion counts ($P=.006$ and $P<.001$) and clearly more effective in treatment success at week 12. In addition, at less than half the concentration, tazarotene 0.045% lotion was numerically more effective than tazarotene 0.1% cream. Mean percent reductions in inflammatory and noninflammatory lesions were 63.8% and 56.9%, compared with 60.0% and 54.1% with tazarotene 0.1% cream at week 12. Treatment success assessed by the investigator or patients' self-assessment was also numerically greater with tazarotene 0.045% lotion. There were no significant differences in patient satisfaction or QoL between the two active treatments. Both were well-tolerated, however, there were more treatment-related adverse events with tazarotene 0.1% cream (5.6% versus 2.9%); most common being application site pain. Limitations: This study was primarily designed to direct the phase 3 program and some of the results are post hoc analyses. Conclusions: A novel tazarotene 0.045% lotion provides statistically significant greater efficacy than vehicle in terms of lesion reduction, and numerically better treatment success than tazarotene 0.1% cream; with a highly favorable safety and tolerability profile in moderate-to-severe acne patients.

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Mid-term oral isotretinoin therapy causes a predominantly sensory demyelinating neuropathy. Altun Y, Inan E. Ideggyogy Sz. 2019 May 30;72(5-6):159-164. doi: 10.18071/isz.72.0159. https://www.ncbi.nlm.nih.gov/pubmed/31241259

Background and purpose: The purpose of this prospective study was to investigate whether mid-term treatment with oral isotretinoin may impact peripheral nerve function. Methods: In this study, we included 28 patients with no apparent neurological or neurophysiological findings. The patients received treatment with oral isotretinoin for papulopustular or nodulocystic acne. The patients with normal findings in the first examination were given 1 mg/kg/day oral isotretinoin. Neurological examinations and electroneurographic studies were performed before and 6 months after the onset of isotretinoin treatment. Results: Clinical examinations and electroneurographic evaluations prior to treatment revealed no abnormalities in any of the patients. However, 20 patients (72%) displayed one or more abnormal values in the tested parameters after treatment. Although the mean amplitudes of compound muscle action potential of the ulnar and median nerves did not vary, significant decreases were observed in the mean sensory conduction velocities of median, ulnar, sural, medial plantar, medial dorsal cutaneous, and dorsal sural nerves 6 months after the onset of treatment. Conclusion: Systemic use of isotretinoin may cause electroneurographic changes. Probable electroneurographic alterations may be detected at a much earlier period via dorsal sural nerve tracing when electrophysiological methods used in routine clinical practice cannot detect these changes.

Clinical evidence on the efficacy and tolerability of a topical medical device containing benzoylperoxide 4%, retinol 0.5%, mandelic acid 1% and lactobionic acid 1% in the treatment of mild facial acne: an open label pilot study. Garofalo V, Cannizzaro MV, Mazzilli S, et al. Clin Cosmet Investig Dermatol. 2019 May 15;12:363-369. doi: 10.2147/CCID.S182317. eCollection 2019. https://www.ncbi.nlm.nih.gov/pubmed/31190944

Background: Acne is a debilitating disorder that requires proper treatment depending on the clinical manifestations and pathogenetic factors, among which hyper-keratinization, seborrhea and bacterial proliferation. Combining active ingredients targeting the different mediators of acne pathogenesis may yield optimal outcomes. Purpose: The purpose of this study was to evaluate the clinical effectiveness, safety and tolerability of a new topical medical device in cream containing benzoyl peroxide 4%, pure retinol 0.05%, palmitate retinol 0.5%, mandelic acid 1% and glycyrrhetic acid on patients with mild acne. Patients and methods: Twenty consecutive patients of both sexes with mild acne were included in the study. The topical treatment was self-applied twice a day for 12 weeks. Evaluations included: Global Acne Grading System (GAGS); inflammatory and non-inflammatory lesions count; reflectance confocal microscopy; seborrhea and hydration degree; photographic documentation; a questionnaire to assess tolerability. Results: The GAGS score showed a 39% reduction from T0 to T1 and 69.20% from T0 to T2. The count of comedonic lesions showed a 44% reduction from T0 to T1 and 65% from T0 to T2. The count of papular lesions diminished by 49.4% from T0 to T1 and by 62% from T0 to T2. The count of pustular lesions decreased by 43% from T0 to T1 and by 80% from T0 to T2. Improvement of hydration and a decrease of seborrhea degree were even observed. These clinical results were confirmed by reflectance confocal microscopy exam. Conclusion: The topical medical device has shown to be clinically effective and well tolerated for the treatment of mild acne. Side effects were mild, transient and well tolerated. The results of our study demonstrated a high tolerability of this new combination of benzoyl peroxide 4% and retinol. Furthermore, our results suggested that the studied compound could be considered as a "maintenance treatment" after specific pharmacological treatment, even in more severe types of acne.

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Clinical Reviews

Contact allergy from fragrances and formaldehyde contributing to papulopustular rosacea. Darrigade AS, Dendooven E, Aerts O. Contact Dermatitis. 2019 Jun 25. doi: 10.1111/cod.13344. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31237351

Allergic contact dermatitis caused by fragrances and formaldehyde is common (1,2), but pustular dermatitis as a manifestation of contact allergy is rare (3). We report a case of therapy-resistant rosacea for which (occupational) contact allergy to fragrances, and to a lesser extent formaldehyde, was identified as an aggravating factor.

Hidradenitis suppurativa: clinical characteristics and determinants of treatment efficacy. Vural S, GündoĞdu M, Sanli H, et al. Dermatol Ther. 2019 Jun 25:e13003. doi: 10.1111/dth.13003. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31237104

Introduction: Hidradenitis Suppurativa (HS) is a chronic inflammatory skin disease which cause a significant decline in quality of life. There are numerous treatment options; however real-life data on the efficacy of these treatments is limited. Objective: This study aims to describe the clinical characteristics and treatment outcomes of 139 patients with HS. Methods: We retrospectively evaluated patients diagnosed with HS between 2015-2018 in two centers. Data on demographic and clinical characteristics, Hurley stages, comorbidities were investigated. Treatment response was measured with hidradenitis suppurativa clinical response index (HISCR). Results: The mean body mass index was 27.8±4.88. Acne lesions were the most common comorbidity observed in 23% (32/139). Anti-inflammatory antibiotics were prescribed as first-line drugs and had moderate efficacy in Hurley stage I/II disease. Doxycycline was a front-line option with an acceptable efficacy in this category. Isotretinoin resulted in the lowest HISCR among all treatments. All acitretin treated patients achieved response. Patients treated with tumor necrosis factor alpha (TNF-α) inhibitors had the highest HISCR. Conclusion: HS patients tend to be overweight, inflammatory comorbidities also being strikingly frequent. Acitretin appears to be a valuable alternative in appropriate patients. Physicians may prioritize TNF-α inhibitors when treating patients with resistant Hurley stage II or severe disease.

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Skin microbiome modulation induced by probiotic solutions. Paetzold B, Willis JR, Pereira de Lima J, et al. Microbiome. 2019 Jun 24;7(1):95. doi: 10.1186/s40168-019-0709-3. https://www.ncbi.nlm.nih.gov/pubmed/31234928

Background: The skin is colonized by a large number of microorganisms, most of which are beneficial or harmless. However, disease states of skin have specific microbiome compositions that are different from those of healthy skin. Gut microbiome modulation through fecal transplant has been proven as a valid therapeutic strategy in diseases such as Clostridium difficile infections. Therefore, techniques to modulate the skin microbiome composition may become an interesting therapeutic option in diseases affecting the skin such as psoriasis or acne vulgaris. Methods: Here, we have used mixtures of different skin microbiome components to alter the composition of recipient skin microbiomes. Results: We show that after sequential applications of a donor microbiome, the recipient microbiome becomes more similar to the donor. After intervention, an initial week-long phase is characterized by the dominance of donor strains. The level of engraftment depends on the composition of the recipient and donor microbiomes, and the applied bacterial load. We observed higher engraftment using a multi-strain donor solution with recipient skin rich in

Cutibacterium acnes subtype H1 and Leifsonia. Conclusions: We have demonstrated the use of living bacteria to modulate skin microbiome composition.

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Complementary and alternative therapy for pediatric acne: a review of botanical extracts, dietary interventions, and oral supplements. Gurnee EA, Kamath S, Kruse L. Pediatr Dermatol. 2019 Jun 23. doi: 10.1111/pde.13904. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31231870

Many supplements and products containing botanical extracts are marketed to patients for the treatment of acne vulgaris. Additionally, increasing attention has been paid to the role of diet in acne vulgaris. Studies on this topic including pediatric patients are limited, with variable efficacy data. Despite these limitations, knowledge of alternative therapies in pediatric acne vulgaris is often expected from pediatric dermatologists. Here we review available data on the efficacy of complementary and alternative medicines for treatment of acne in pediatric patients, focusing on topical, oral, and dietary modifications.

Dermocosmetics: beneficial adjuncts in the treatment of acne vulgaris. Araviiskaia E, Lopez Estebaranz JL, Pincelli C. J Dermatolog Treat. 2019 Jun 18:1-27. doi: 10.1080/09546634.2019.1628173. [Epub ahead of print] https://www.ncbi.nlm.nih.gov/pubmed/31211609

Introduction: Dermocosmetics are increasingly being recognized as an integral part of acne management. Dermocosmetics may minimize the side effects of acne medications, provide synergistic effects by improving the efficacy of other treatments, and limit exposure to environmental factors such as ultraviolet radiation. We aimed to provide an overview of the active ingredients and different types of preparations used in dermocosmetics for acne and highlight supporting evidence for their use in clinical practice. Methods: A literature search for selected key words was performed using PubMed. Additional papers were identified based on author expertize. Results and Discussion: The different types of active ingredients in dermocosmetics for acne can be classified as: sebum-controlling, antimicrobial, anti-inflammatory, antioxidant and/or keratolytic. Such agents may modulate the pathogenic pathways in acne. Dermocosmetics can be formulated as emulsions/creams, cleansers or camouflaging make-up. Dermocosmetics are useful treatment adjuncts for acne and have been shown to improve the clinical signs of acne, reduce transepidermal water loss and modify sebum production. Dermocosmetics have also been associated with reducing side effects of pharmacological treatments, high levels of patient satisfaction and increased adherence to treatment regimens. Together this evidence supports the use of dermocosmetics in clinical practice.

Remission of chronic acne fulminans and severe hidradenitis suppurativa with targeted antibiotherapy. Duchatelet S, Join-Lambert O, Delage M, et al. JAAD Case Rep. 2019 Jun 8;5(6):525-528. doi: 10.1016/j.jdcr.2019.04.001. eCollection 2019 Jun. https://www.ncbi.nlm.nih.gov/pubmed/31205996

Acne fulminans (AF) and hidradenitis suppurativa (HS) are 2 severe conditions with no consensus on medical treatment and no clear pathophysiology. We report the remission of long-lasting and severe AF with HS that was unresponsive to many previous treatments.

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Selection criteria and techniques for improved cosmesis and predictable outcomes in laser hair removal treatment of acne keloidalis nuchae. Umar S. JAAD Case Rep. 2019 Jun 8;5(6):529-534. doi: 10.1016/j.jdcr.2019.02.034. eCollection 2019 Jun. https://www.ncbi.nlm.nih.gov/pubmed/31205997

A common denominator for successful, long-term treatment of acne keloidalis nuchae (AKN) with low recurrence is elimination of hair in the lesions, which can be achieved by surgical means or laser hair removal. Although laser hair removal typically improves AKN, not all lesions are equally responsive to treatment.5 Furthermore, although studies generally report favorable outcomes from laser hair removal in treating AKN, they have also described variability in outcomes and the need for a standardized scoring system. This report describes a methodology for selecting patients for laser AKN treatment based on height of individual folliculocentric lesions and a laser treatment classification system to maximize patient outcomes and expectations.

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Isotretinoin-associated possible Kounis syndrome: a case report and a review of other cardiovascular side effects reported in the literature. Akçay M, Yüksel S. Turk Kardiyol Dern Ars. 2019 Jun;47(4):324-328. doi: 10.5543/tkda.2018.67055. https://www.ncbi.nlm.nih.gov/pubmed/31219450

Isotretinoin is widely used in the treatment of acne vulgaris and other dermatological diseases. Numerous side effects have been reported in the literature. A myocardial bridge occurs when segments of the coronary artery create an intramyocardial tunnel. Atherosclerotic plaque formation frequently occurs in the segment proximal to a myocardial bridge. Coronary thrombus formation, which is often the cause of myocardial infarction in young patients, can be triggered by many factors. Kounis syndrome is described as acute coronary syndromes associated with allergic or hypersensitivity reactions. This article is a description of the case of a patient predisposed to the development of a thrombus by a myocardial bridge who was successfully treated for coronary thrombosis and which may represent a case of Kounis syndrome associated with isotretinoin use presented in the context of the relevant literature.

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Topical probiotics: the unknowns behind their rising popularity. Lee GR, Maarouf M, Hendricks AJ, Lee DE, Shi VY1. Dermatol Online J. 2019 May 15;25(5). pii: 13030/qt2v83r5wk.
https://www.ncbi.nlm.nih.gov/pubmed/31220895

Objective: Topical probiotics have been used for skin care and treatment since the early 20th century. Over the past decade, there has been a dramatic surge of commercially available topical probiotic products. We conducted a systematic search of clinical data relating to the use of topical probiotics and identified relevant clinical and regulatory gaps. Methods: PubMed and Google Scholar searches were conducted for trials and reviews of probiotics. FDA definitions of cosmetics, drugs, and regulation of topical probiotics were reviewed. Results: Topical probiotics have shown efficacy in a number of limited trials, particularly those involving the treatment of acne, atopic dermatitis, and rosacea. However, there is a paucity of literature on the safety profiles, mechanistic action, and therapeutic potential of topical probiotic products. Several regulatory gaps exist, including approval and classification of topical probiotic products by the FDA; currently there are no topical probiotic products the FDA has approved as drugs. Conclusion: With increasing popularity among the general public, but insufficient clinical data to demonstrate large-scale effectiveness and a thorough understanding of side effects, there is a need for further mechanistic and clinical investigation, as well as improved regulation and standardization of topical probiotic products.

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Patient Counseling / Communication

Antibiotics for acne vulgaris: using Instagram to seek insight into the patient perspective. Reddy PS, DeBord LC, Gupta R, et al. J Dermatolog Treat. 2019 Jun 27:1-5. doi: 10.1080/09546634.2019.1631432. [Epub ahead of print]

https://www.ncbi.nlm.nih.gov/pubmed/31190574

Objectives: Monitoring of public social media posts is an underutilized method to understand patients' perspectives regarding their condition and treatment. We investigated information shared by Instagram users of oral and topical antibiotics for treatment of acne vulgaris. Material and methods: We performed a retrospective observational study of public Instagram posts assigned common hashtags to denote the use of antibiotics therapy for acne over nearly eight years. Results: Dissatisfaction was more prevalent among users of oral antibiotics (25.6%) compared to users of topical antibiotics (9.8%), and negative tone among this group was most commonly due to lack of improvement in skin appearance. Reported side effects paralleled known side effects for oral and topical antibiotics. Conclusions: Instagram may have utility in elucidating patient behavior and attitudes. Dermatologists should increase their social media presence in order to disqualify any incorrect information endorsed in 'popular' or commonly viewed posts.