



AARS **HOT TOPICS** MEMBER NEWSLETTER

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AARS Special Announcements

Register Now: AARS 14th Annual Member Reception, Friday, March 1, 2019 6PM – 8PM, Washington, DC

Join your AARS colleagues and President Julie Harper and President-Elect Mark Jackson for a wonderful evening! We will be at Hotel Monaco, 700 F Street Northwest in Washington DC in the Paris Ballroom. All members and Corporate Benefactors are welcome! [Click here to register now!](#)

Industry News

Dermatologists call for changes to off-label coverage decisions. Thursday, January 24, 2019. DermWire, Practical Dermatology. <http://practicaldermatology.com/dermwire/2019/01/24/dermatologists-call-for-changes-to-off-label-coverage-decisions>

Dermatologists report major inconsistencies in Medicare Reimbursement Policy for off-label prescriptions and are now calling for an appeal process for cases where coverage is denied. Researchers from several institutions, including the Perelman School of Medicine at the University of Pennsylvania, examined lists of medications and what they're indicated for and found they are incomplete, outdated, and frequently in conflict with each other. They published their findings, as well as their call for new policy surrounding off-label coverage decisions, in JAMA Dermatology. Approximately a quarter of prescriptions for the ten most common dermatologic diagnoses are used off-label, and this percentage is likely higher for rare diseases. The lists or compendia are meant to serve as a reference for which uses are medically accepted. If a medication is in the compendia, it's approved. If it's not, it's rejected. "There's no real appeal process, so that rejection is the end of the story, and the rejection does not come with a suggestion of an alternative of what therapy might be approved instead," says the study's lead author John Barbieri, MD, a Dermatology Research Fellow at Penn., in a news release. "This makes it incredibly challenging as a clinician since we can find ourselves playing a guessing game while our patients wait for treatment." The researchers set out to get a better understanding of what the compendia do and whether they are sufficient for current clinical realities. They made a list of accepted treatments for 22 chronic, non-infectious diseases for which off-label prescribing is an important part of treatment. They then analyzed both compendia, the American Hospital Formulary Service (AHFS) Drug Information and the DRUGDEX® Information System for inclusion of these therapies. Overall, they found just 73 of the 238 treatments they evaluated (31 percent) were included in either compendium. Among diseases, 10 of 22 (45 percent) had one or fewer treatments included in the DRUGDEX compendium, and 15 of 22 (68 percent) had one or fewer treatments included in the AHFS. For 53 out of 238 treatments (22 percent), the medication was included in one but not the other. "The compendia don't even agree with each other, and the literature they used as a basis for inclusion did not follow any discernable pattern and was often based on decades old sources," Barbieri says. Just 56 percent (18 out of 32) of treatments with Grade A evidence (a double-blind study) were included in either compendium. The number dropped all the way down to 10 percent (3 of 30) for Grade B evidence (a clinical trial \geq 20 Subjects) but went up to 12 percent (5 of 43) for Grade C evidence and 13 percent (8 of 61) for Grade D evidence. Results from randomized controlled trials were ignored while citations from single patient case-reports and even personal communication with pharmaceutical companies were included. "It was not uncommon for first-line therapies with a Grade A or B evidence to be missing from the compendia, while second or third line therapies with a lower evidence grade were included," says Barbieri. Researchers point out that the compendia are likely the most convenient way to make coverage decisions, but the

inconsistencies that already exist combined with the rapid pace of new research and the more than 3,000 conditions managed by dermatologists means keeping them updated is logistically difficult. They propose two other potential solutions. One approach would require Medicare part D to consider evidence from the literature that clinicians present during the authorization process. A second would be to develop an expert panel to review appeals for therapies not included in the compendia.

New Medical Research

Association of systemic antibiotic treatment of acne with skin microbiota characteristics. Chien AL, Tsai J, Leung S, et al. *JAMA Dermatol.* 2019 Feb 13. doi: 10.1001/jamadermatol.2018.5221. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30758497>

Importance: Given the widespread use of systemic antibiotics for treatment of moderate to severe acne, it is important to understand the associations of such antibiotic use with changes not only in *Cutibacterium acnes* (formerly *Propionibacterium acnes*) but also in the complete bacterial community of the skin. **Objective:** To examine the composition, diversity, and resilience of skin microbiota associated with systemic antibiotic perturbation in individuals with acne. **Design, setting, and participants:** This longitudinal cohort study conducted at an academic referral center in Maryland from February 11 to September 23, 2014, included 4 female participants who had received a recent diagnosis of acne vulgaris, showed comedonal and inflammatory acne on the face, were at least 18 years old, and had no recent use of systemic or topical treatments for acne, including antibiotics and retinoids. Data analysis was performed between July 5, 2017, and November 7, 2018. **Interventions:** Participants were prescribed oral minocycline, 100 mg, twice daily for 4 weeks. Skin areas on the forehead, cheek, and chin were sampled for 16S ribosomal RNA gene sequencing at baseline, 4 weeks after starting minocycline treatment, and then 1 week and 8 weeks after discontinuation of treatment. **Main outcomes and measures:** Skin microbiota examined with respect to relative abundance of bacterial taxa, α diversity (represents within-sample microbial diversity), and β diversity (represents between-sample microbial diversity). Acne status evaluated with photography and lesion count. **Results:** Of the 4 patients included in this study, 2 were 25 years old, 1 was 29 years old, and 1 was 35 years old; 2 were white women, 1 was an African American woman, and 1 was an Asian woman. Across all 4 patients, antibiotic treatment was associated with a 1.4-fold reduction in the level of *C. acnes* (difference, -10.3%; 95% CI, -19.9% to -0.7%; $P = .04$) with recovery following cessation of treatment. Distinct patterns of change were identified in multiple bacterial genera, including a transient 5.6-fold increase in the relative abundance of *Pseudomonas* species (difference, 2.2%; 95% CI, 0.9%-3.4%; $P < .001$) immediately following antibiotic treatment, as well as a persistent 1.7-fold increase in the relative abundance of *Streptococcus* species (difference, 5.4%; 95% CI, 0.3%-10.6%; $P = .04$) and a 4.7-fold decrease in the relative abundance of *Lactobacillus* species (difference, -0.8%; 95% CI, -1.4% to -0.2%; $P = .02$) 8 weeks following antibiotic treatment withdrawal. In general, antibiotic administration was associated with an initial decrease from baseline of bacterial diversity followed by recovery. Principal coordinates analysis results showed moderate clustering of samples by patient (analysis of similarity, $R = 0.424$; $P = .001$) and significant clustering of samples by time in one participant (analysis of similarity, $R = 0.733$; $P = .001$). **Conclusions and relevance:** In this study, systemic antibiotic treatment of acne was associated with changes in the composition and diversity of skin microbiota, with variable rates of recovery across individual patients and parallel changes in specific bacterial populations. Understanding the association between systemic antibiotic use and skin microbiota may help clinicians decrease the likelihood of skin comorbidities related to microbial dysbiosis.

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Metronidazole loaded nanostructured lipid carriers to improve skin deposition and retention in the treatment of rosacea. Shinde UA, Parmar SJ, Easwaran S. *Drug Dev Ind Pharm.* 2019 Feb 6:1-30. doi: 10.1080/03639045.2019.1569026. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30727789>

The objective of the present investigation was to improve the skin deposition and retention of metronidazole (MTZ) in rosacea therapy, by incorporating it into nanostructured lipid carriers (NLCs). The main challenge in this endeavour was the partial hydrophilicity of MTZ, which mandated careful selection of excipients, including solid and liquid lipids, surfactants, and their ratios in combination. NLCs were produced by the phase inversion temperature method and finally converted into a gel for topical application. The prepared nanoparticles were evaluated for their particle size, zeta potential, entrapment efficiency, solid state characteristics, surface morphology, in vitro drug release, and permeation through excised skin. The gel was additionally characterized for its pH, drug content, viscosity and spreadability. The prepared nanoparticles were spherical and of size below 300nm. Incorporation of judiciously chosen excipients made possible a relatively high entrapment efficiency of almost 40%. The drug release was found to be biphasic, with an initial burst release followed by sustained release up to 8 hours. In comparison to the plain drug gel, which had a tissue deposition of 11.23%, the NLC gel showed a much superior and desirable deposition of 26.41%. The lipophilic nature of the carrier, its size and property of occlusion enabled greater amounts of drug to enter and be retained in the skin, simultaneously minimizing permeation through the skin, i.e., systemic exposure. The results of the study suggest that NLCs of anti-rosacea drugs have the potential to be of use in the therapy of rosacea.

Interrater agreement and reliability of outcome measurement instruments and staging systems used in hidradenitis suppurativa. Thorlacius L, Garg A, Riis PT, et al. *Br J Dermatol.* 2019 Feb 6. doi: 10.1111/bjd.17716. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30724351>

Background: Monitoring disease activity over time is a prerequisite for clinical practice and research. Valid and reliable outcome measurements instruments (OMIs) and staging systems provide researchers and clinicians with benchmark tools to assess the primary and secondary outcomes of interventional trials and to guide treatment selection properly. Objectives: To investigate interrater reliability and agreement in instruments currently used in Hidradenitis Suppurativa (HS) with HS-experienced dermatologists being the rater population of interest. Methods: In a prospective completely balanced design, 24 HS patients underwent a physical examination by 12 raters (288 assessments) using nine instruments; analysed using generalised linear mixed models. Results: For the staging systems, the study found good interrater reliability for Hurley staging in the axillae and gluteal region, moderate interrater reliability for Hurley staging in the groin and Physician's Global Assessment, and fair interrater reliability for Hurley staging refined and International HS Severity Scoring System. For all the tested OMIs, the observed intervals for limits of agreement were very wide relative to the ranges of the scales. Conclusion: The very wide intervals for limits of agreement imply that substantial changes are needed in clinical research in order to rule out measurement error. The results illustrate a difficulty, even for experienced HS-experts, to agree on the type and number of lesions when evaluating disease severity. The apparent caveats call for global efforts, such as the Hidradenitis Suppurativa cORe outcomes set International Collaboration (HISTORIC) to reach consensus on how valid HS physical signs are best measured reliably in randomised trials.

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Is there an association between isotretinoin therapy and adverse mood changes? A prospective study in a cohort of acne patients. Bray AP, Kravvas G, Skevington SM, Lovell CR. *J Dermatolog Treat.* 2019 Feb 5:1-21. doi: 10.1080/09546634.2019.1577545. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30717601>

Background: Treatment with isotretinoin has been associated with adverse mood changes. However, even though a number of studies support this association, others refute it, and a concrete causal link has yet to be proven. Acne itself is associated with depressive symptoms, thus making studies on the topic difficult to design and interpret. Objectives & methods: Using validate tools, we performed a prospective study in order to assess the effects of treatment with isotretinoin on the mood of patients with acne vulgaris. Results: 56 patients were included with a mean age of 21 years. At baseline, questionnaire scores for all measured parameters were indicative of lower mood than published norms. During and after treatment, values of either stable or improving mood were displayed across all questionnaires. Three patients developed significantly deteriorating moods, two of which also experienced severe physical adverse effects. Conclusion: The relationship between isotretinoin and depression is the most debated aspect of isotretinoin therapy. Our results link isotretinoin to an overall improvement in psychological wellbeing, even in patients suffering with stable mental illness. However, we also found that a small minority of patients are susceptible to severe mood deterioration, particularly in conjunction with severe physical side effects.

Studying the efficacy of a new radical treatment for acne vulgaris using a surgical technique. Tsukayama A, Yoshinaga A. *J Dermatolog Treat.* 2019 Feb 1:1-21. doi: 10.1080/09546634.2019.1577948. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30706730>

Background: Despite the numerous treatments available for acne vulgaris, not all are efficacious, and many patients experience psychological distress and various side effects from medications used to treat this condition. The objective of this study was to develop a new surgical technique for the treatment of acne. Methods: This surgical technique utilizes tweezers to widen the hair follicle to discharge comedo and pus completely and quickly from the acne. Results: Complete healing of acne was observed. Patients whose acne were cured within the range of 1 to 10, 1 to 20, and 1 to 50 treatments accounted for approximately 85%, 93%, and 99% of the 4566 patients, respectively. Conclusion: This newly developed surgical technique can be used as a basic treatment option for acne vulgaris. The implications of these findings include the prevention of patient psychological distress and avoidance of side effects of medications.

Two cases of hidradenitis suppurativa and botulinum toxin type a therapy: A novel approach for a pathology that is still difficult to manage. Campanati A, Martina E, Giuliadori K, et al. *Dermatol Ther.* 2019 Jan 28:e12841. doi: 10.1111/dth.12841. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30693648>

Hidradenitis suppurativa is a chronic skin disease with an intense inflammatory activation. It typically affects the intertriginous areas with cysts, fistulae, and scarring extremely painful. Patients suffer from severe psychological impact. HS still results in a high unmet medical need with several underdiagnosed cases, probably due to the incomplete knowledge of the pathogenesis of HS. The use of botulinum toxin a has recently been proposed as an effective therapy for HS.

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Clinical and erythema-directed imaging evaluation of papulo-pustular rosacea with topical ivermectin: A 32 weeks duration study. Dall'Oglio F, Lacarrubba F, Luca M, et al. *J Dermatolog Treat.* 2019 Jan 20:1-15. doi: 10.1080/09546634.2019.1572860. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30663445>

Background: Ivermectin (IVM) 1% cream represents an emerging therapy for papulo-pustular rosacea (PPR) and erythema-directed photography is a useful tool for evaluation of patient's erythema. Objective: The aim of our study was to assess the efficacy of IVM in PPR in achieving clear status at 8 weeks and, if unresponsive up to 20 weeks followed by respectively 24 and 12 weeks follow-up, using clinical/instrumental evaluation. Methods: Twenty patients with PPR were instructed to apply IVM for 8 weeks. At week 8, in case of complete response the therapy was stopped and a follow-up period up to 24 weeks was carried out, whereas in case of improvement the treatment was extended for additional 12 weeks followed by a 12 weeks follow-up. Instrumental evaluation was performed by erythema-directed digital photography (VISIA-CRTM- RBXTM). Results: At week 8, complete response was observed in 31.6% of cases along with a significant decrease of erythema degree. During treatment extension, additional improvement in terms of complete response, respectively at 12 (42%), 16 (47%) and 20 (58%) weeks, and reduction of erythema degree was observed. Conclusions: IVM is a valuable therapeutic option in mild/moderate PPR. Erythema-directed digital photography enhances erythema changes visualization compared to clinical observation alone.

Successful treatment of facial atrophic acne scars by fractional radiofrequency microneedle in Vietnamese patients. Kim CNT, Thi LP, Van TN, et al. *Open Access Maced J Med Sci.* 2019 Jan 17;7(2):192-194. doi: 10.3889/oamjms.2019.002. eCollection 2019 Jan 30. <https://www.ncbi.nlm.nih.gov/pubmed/30745955>

Aim: This study aimed to evaluate the effect of the fractional Radiofrequency microneedle treatment for facial atrophic acne scars. Methods: A group of 52 patients were recruited for the study. Goodman & Baron's acne scar grading system was used for assessment at their first visit and the end of 3 months after the last treatment session. Results: The results displayed that 73.1% of patients have the improvement of the Goodman scar level after four times of treatment. The Goodman and Baron scar point mean was reduced from 16 ± 7.6 to 5.6 ± 5.0 ($p < 0.01$). Post-inflammatory hyperpigmentation was experienced in 5 patients (9.6%). Conclusion: The microneedle fractional Radiofrequency is an effective treatment method of facial atrophic acne scars, with minor side effects and a short downtime.

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Minocycline-induced transient depersonalization: A case report. Shamout Y, Sigal A, Litvinov IV. *SAGE Open Med Case Rep.* 2019 Jan 17;7:2050313X18823827. doi: 10.1177/2050313X18823827. eCollection 2019. <https://www.ncbi.nlm.nih.gov/pubmed/30719316>

Minocycline is a medication commonly used for the treatment of acne vulgaris. The central nervous system-induced side effects of minocycline include headaches, pseudotumor cerebri, ataxia, and vestibular dysfunction. Many minocycline-related side effects have been presented in the literature, however, reports of depersonalization symptoms induced by the medication are rare. We present the case of a 37-year-old female diagnosed with perioral dermatitis treated with minocycline, who within 1 week suffered from severe depersonalization symptoms. The pathophysiologic mechanism of depersonalization induced by minocycline is unclear but various hypotheses include hypersensitivity of the serotonin system, drug-related metabolic encephalopathy, substance-induced temporal disintegration, and panic-disorder-related etiology. Depersonalization is a potentially severe and important side effect

of minocycline that should be documented, further investigated, and recognized by clinicians.

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Exploring the potential for rosacea therapeutics of siRNA dispersion in topical emulsions. Colombo S, Harmankaya N, Water JJ, Bohr A. *Exp Dermatol*. 2019 Jan 16. doi: 10.1111/exd.13881. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30650201>

Rosacea is a prevalent skin condition dependent on the individual genetic profile. The current pharmacological management of this condition is mostly based on small molecule drugs predominately effective in ameliorating the inflammatory condition. Emerging molecular approaches could present an opportunity for managing rosacea conditions at transcriptomic level, and in the future allow personalized approaches. RNA medicines, such as small RNA interference (siRNA), could provide a flexible and applicable tool reaching this aim. However, the topical siRNA delivery by dermatological emulsions, commonly used in the daily management of rosacea, is still largely unexplored. Consequently, RNA interference application to rosacea was defined on molecular bases by genetic expression meta-data analysis. Based on this, a siRNA directed against TLR2 was designed and validated in vitro on murine macrophages and fibroblasts. Next, siRNA was dispersed in the continuous phase of emulsions and was characterized for commonly used dermatologic bases. Finally, the potential delivery performance of the topical emulsions was tested in vivo on healthy Balb/c mice. It was found that the interaction of siRNA with combination of excipients, such as urea and glycerol, is likely to favour the siRNA delivery, inducing genetic silencing of TLR2. These findings provide a foundation for the future development of topical RNA-based dispersions for topical molecular medicines, by emphasizing on the formulation and therapeutic-based opportunities with dermatological treatments.

Botulinum toxin blocks mast cells and prevents rosacea like inflammation. Choi JE, Werbel T, Wang Z, et al. *J Dermatol Sci*. 2019 Jan;93(1):58-64. doi: 10.1016/j.jdermsci.2018.12.004. Epub 2018 Dec 28. <https://www.ncbi.nlm.nih.gov/pubmed/30658871>

Background: Rosacea is a chronic inflammatory skin condition whose etiology has been linked to mast cells and the antimicrobial peptide cathelicidin LL-37. Individuals with refractory disease have demonstrated clinical benefit with periodic injections of onabotulinum toxin, but the mechanism of action is unknown. Objectives: To investigate the molecular mechanism by which botulinum toxin improves rosacea lesions. Methods: Primary human and murine mast cells were pretreated with onabotulinum toxin A or B or control. Mast cell degranulation was evaluated by β -hexosaminidase activity. Expression of botulinum toxin receptor Sv2 was measured by qPCR. The presence of SNAP-25 and VAMP2 was established by immunofluorescence. In vivo rosacea model was established by intradermally injecting LL-37 with or without onabotulinum toxin A pretreatment. Mast cell degranulation was assessed in vivo by histologic counts. Rosacea biomarkers were analyzed by qPCR of mouse skin sections. Results: Onabotulinum toxin A and B inhibited compound 48/80-induced degranulation of both human and murine mast cells. Expression of Sv2 was established in mouse mast cells. Onabotulinum toxin A and B increased cleaved SNAP-25 and decreased VAMP2 staining in mast cells respectively. In mice, injection of onabotulinum toxin A significantly reduced LL-37-induced skin erythema, mast cell degranulation, and mRNA expression of rosacea biomarkers. Conclusions: These findings suggest that onabotulinum toxin reduces rosacea-associated skin inflammation by directly inhibiting mast cell degranulation. Periodic applications of onabotulinum toxin may be an effective therapy for refractory rosacea and deserves further study.

Clinical Reviews

Platelet-rich plasma and its utility in the treatment of acne scars: A systematic review. Hesseler MJ, Shyam N. *J Am Acad Dermatol.* 2019 Feb 8. pii: S0190-9622(18)32955-4. doi: 10.1016/j.jaad.2018.11.029. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30742878>

The field of dermatology has seen numerous therapeutic innovations in the past decade with platelet-rich plasma recently garnering significant interest in acne scarring. This review consolidates the available evidence of platelet rich plasma for the practicing dermatologist and evaluates the current evidence up to May 31, 2018. A search was conducted in the PubMed database for "platelet rich plasma" or "platelet releasate" or "platelet gel" or "PRP" and "dermatology" or "skin" or "hair" or "cutaneous" with thirteen articles meeting the inclusion criteria. The quality of each individual study was evaluated and levels of evidence were assigned according to the Centre for Evidence-Based Medicine, Oxford. This review reveals that activated, leukocyte and platelet-rich plasma in combination with fractional ablative laser treatment, administered in 2-3 sequential sessions 1 month apart, improves the appearance of acne scars. The evidence for the use of platelet-rich plasma with microneedling is less supportive. Due to the heterogeneity of studies and widely variable outcome measures, comparison between platelet-rich plasma treatments and subsequent statistical analysis could not be performed. While these studies use various subjective and objective evaluation methods, the addition of platelet-rich plasma provides improvements in acne scarring, higher patient satisfaction and decreased post-procedure downtime.

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A decade retrospective study of light/laser devices in treating nasal rosacea. Zhang Y, Jiang S, Lu Y, et al. *J Dermatolog Treat.* 2019 Feb 7:1-24. doi: 10.1080/09546634.2019.1580669. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30732485>

Background: Large-scale retrospective studies of light/laser in treating nasal rosacea were lacking. Objective: The study was aimed to perform a decade retrospection of the patients with nasal rosacea who were treated with light/laser devices. Methods: Methods: A study between 2008 and 2017 was performed retrospectively. Categorization of rosacea type (erythema/telangiectasia, ET; papules/pustules, PP; rhinophyma, RP) was made according to the photographs. Device settings, treatment regimens and treatment sessions of light/laser facilities were summarized. Efficacy was evaluated using a grading scale. Results: In all, 807 patients received light/laser treatments. The subtypes of nasal rosacea were ET (n = 196), PP (n = 95), RP (n = 42), ET + PP (n = 334), ET + RP (n = 15), PP + RP (n = 88), and ET + PP + RP (n = 37). The lesions of ET or PP were mainly treated with non-invasive devices (Intense pulsed light, IPL; Dye pulse light, DPL; Dual wavelength laser system, DW) and those of RP were treated with the Fractional carbon dioxide (FCO2) laser. For the mixed subtypes, the general disposal orders of lesions were ET, PP and later RP. And the fundamental orders of devices application were IPL, DPL, DW and FCO2 laser. For all types of rosacea except for RP (2-4 sessions), most of the patients received 4-6 sessions of treatments. Of all subtypes of ET, PP, RP, ET + PP, ET + RP, PP + RP, ET + PP + RP, the patients who achieved more than 50% improvement accounted for 74.5%, 58.3%, 83.3%, 69.2%, 73.3%, 61.4%, 51.4%, respectively. Conclusion: The multiple, sequential light/laser devices can be safely used in nasal rosacea with various degrees efficacies based on different types.

Insights on an in vivo model for postinflammatory hyperpigmentation. Lyons AB, Kohli I, Lim HW, Hamzavi IH. *Br J Dermatol.* 2019 Feb 6. doi: 10.1111/bjd.17746. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30729515>

Postinflammatory hyperpigmentation (PIH) can occur following a multitude of inflammatory skin conditions including acne vulgaris. It is more common in darker Fitzpatrick phototypes and represents a common skin complaint in dermatology offices. Despite its common occurrence, treatment options for PIH remain limited. Isedeh et al. published a validated in vivo model for PIH in which 35% trichloroacetic acid (TCA) solution was used to simulate truncal acne-induced PIH.

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Could Isotretinoin flare hidradentis suppurativa? A case series. Gallagher CG, Kirthi SK, Cotter CC, et al. *Clin Exp Dermatol.* 2019 Feb 5. doi: 10.1111/ced.13944. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30719727>

We report eight cases of patients with severe acne who were treated with Isotretinoin and developed painful nodules in their axillae and groin consistent with Hidradenitis Suppurativa (HS). The pathogenesis of HS is still not completely understood; recent research from a study in 2011 of biopsies from HS lesions showed a reduction or absence of sebaceous glands compared to normal skin in HS patients and the author suggested this contributes to the pathogenesis of the disease. Interestingly the main effect of Isotretinoin is to decrease the size and action of sebaceous glands; so hypothetically, as Isotretinoin acts by reducing the sebaceous glands further it could potentially aggravate the condition. Our experience has instilled caution in our prescribing of Isotretinoin; patients are questioned about symptoms of HS prior to and during treatment, particularly patients with acne conglobata.

Efficacy and possible mechanisms of botulinum toxin treatment of oily skin. Shuo L, Ting Y, KeLun W, et al. *J Cosmet Dermatol.* 2019 Jan 29. doi: 10.1111/jocd.12866. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30697928>

Background: Oily skin is one of the most common dermatological complaints. Oily skin may be accompanied by enlarged pores, acne, and seborrheic dermatitis. Moreover, oily skin has negative effects on self-perception. Most therapeutic approaches used to treat oily skin have had varying degrees of efficacy and include topical treatments, such as photodynamic therapy and lasers. However, certain of these therapies for oily skin may lead to severe side effects. With the expanding use and high safety profile of botulinum toxin type A (BoNT-A), its use in the treatment of oily skin has caused significant concerns; moreover, relevant reports have gradually accumulated to address the efficacy of BoNT-A and explore its mechanisms of action. AIMS: The objective of this article was to review the efficacy and possible treatment mechanisms of BoNT-A on oily skin. Methods: A retrospective review of the published data was conducted. Results: Most studies have suggested that the intradermal injection of BoNT-A decreased sebum production and pore size. Furthermore, this treatment attained high patient satisfaction without significant side effects. BoNT-A effectively decreased sebum production and excretion, which was in keeping with previous studies, possibly via its blockade of cholinergic signaling and its neuromodulatory effects. Conclusions: Intradermal BoNT-A injection may represent a promising new treatment for oily skin and other relevant dermatological problems, such as enlarged pores, acne, and seborrheic dermatitis. Further study is still needed to determine the specific mechanisms of BoNT-A and the optimal injection techniques and doses for oily skin and other relevant cosmetic concerns.

Infiltrative squamous cell carcinoma in hidradenitis suppurativa: A case report for early surgical intervention.

Juviler PG, Patel AP, Qi Y. Int J Surg Case Rep. 2019 Jan 19;55:50-53. doi: 10.1016/j.ijscr.2019.01.006. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30685629>

Introduction: Hidradenitis suppurativa (HS) is a chronic inflammatory disease of the skin that has potential for malignant transformation into squamous cell carcinoma (SCC). The pathogenesis of HS is poorly understood but thought to be from follicular keratinization, occlusion, and rupture of the pilosebaceous unit, followed by an infiltration of inflammatory cells into the dermis. Treatment is challenging due to a lack of effective medical therapies. **Presentation of case:** In this case report, we describe a patient with chronic HS that developed into SCC who underwent late surgical intervention after failing medical management. At the time malignant transformation was discovered, the SCC was beyond resectability and ultimately fatal. **Discussion:** Based on the morbidity and mortality of chronic HS illustrated in our case and presented in the literature, we advocate for early surgical intervention. **Conclusion:** Wide surgical excision offers a near definitive intervention and should at least be considered for all chronic HS patients due to high morbidity and malignant transformation risk.

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Combination therapies for hidradenitis suppurativa: A retrospective chart review of 31 patients.

McPhie ML, Bridgman AC, Kirchof MG. J Cutan Med Surg. 2019 Jan 18;1203475418823529. doi: 10.1177/1203475418823529. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30658534>

Background: Although a variety of medical and surgical interventions exist for the treatment of hidradenitis suppurativa (HS), it remains a challenging disease to manage because of its variable presentation and unpredictable clinical course. Apart from the combination of clindamycin and rifampin, the success of other combination therapies is largely unknown. **Objectives:** The goal of our study was to examine the clinical utility of various combination therapies for the treatment of HS. **Methods:** We conducted a qualitative retrospective chart review of 31 patients with dermatologist-diagnosed HS who were seen at an academic teaching hospital between 2014 and 2018. Demographic data, disease location, disease severity, and treatment protocol were retrieved for analysis. Hurley stage was used to classify disease severity on initial presentation, and the International Hidradenitis Suppurativa Severity Score System (IHS4) was used to track changes across visits. **Results:** Of the 31 patients (Mage = 37.7 years; 67.7% female) included in the study, 6 (19.4%), 11 (35.5%), and 14 (45.2%) patients were classified as Hurley stages I, II, and III, respectively. Although no statistical results are provided because of the small sample size, we have identified several drug combinations that show promising clinical response for patients with HS based on their IHS4 score, such as isotretinoin/spironolactone for mild disease, isotretinoin or doxycycline with adalimumab for moderate disease, and cyclosporine/adalimumab for severe disease. **Conclusions:** This preliminary work demonstrates that HS treatment with combination therapy appears to be a promising method of disease management.

Over-the-counter light therapy for acne: A cross-sectional retrospective analysis.

Seth D, Wang S, Ezaldein HH, et al. Dermatol Online J. 2019 Jan 15;25(1). pii: 13030/qt8sq5j6vk. <https://www.ncbi.nlm.nih.gov/pubmed/30710908>

Acne vulgaris affects a large portion of the population and drives many patients to seek over-the-counter (OTC) treatments. Light-emitting diode (LED) therapy has recently emerged as a potential therapeutic option for inflammatory

acne. We used the U.S. Food and Drug Administration (FDA) 510(k) premarket submission database to assess the growth in OTC LED therapy devices for treatment of acne. We also used Google Trends data in searches for "acne light therapy mask" to characterize growth in consumer interest in these devices. Overall, 35 LED devices received pre-market approval from 2000 to 2018, with a peak in approvals in 2016. Similarly, there was a dramatic increase in public interest in these devices in 2016. Only two devices were associated with company-approved trials. The current regulatory process requires little evidence to substantiate specified uses and a better understanding of practice guidelines and the efficacy of this treatment modality is required.

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Clinical effectiveness of novel rosacea therapies. Feaster B, Cline A, Feldman SR, Taylor S. *Curr Opin Pharmacol.* 2019 Jan 10;46:14-18. doi: 10.1016/j.coph.2018.12.001. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/30639950>

Rosacea is a common inflammatory skin disease that is difficult to manage because of the unknown etiology and due to its variable manifestations. These facts and the few new available treatment options make it difficult to select a really effective treatment. This review aims to assess the efficacy and safety of novel treatment options for rosacea. The topical alpha adrenergic agonist oxymetazoline reduces rosacea-related erythema. Topical ivermectin improves lesion count, inflammation, and maintenance of remission of rosacea compared to topical metronidazole. Procedural therapies including pulsed dye laser, radiofrequency, and dual frequency ultrasound are promising as both monotherapies or in combination. Although there are several effective treatment modalities for rosacea management, treatments options should be tailored for the specific clinical scenario.

Biologics for hidradenitis suppurativa: An update. Włodarek K, Ponikowska M, Matusiak Ł, Szepietowski JC. *Immunotherapy.* 2019 Jan;11(1):45-59. doi: 10.2217/imt-2018-0090. <https://www.ncbi.nlm.nih.gov/pubmed/30702012>

Hidradenitis suppurativa (HS) is a chronic, inflammatory dermatosis characterized by an occurrence of nodules, abscesses, sinus tracks and scarring. Its pathogenesis is multifactorial and still not fully understood, therefore, current systemic therapies still remain a serious challenge. Increased levels of several proinflammatory cytokines have been reported in patients suffering from HS, therefore biologics appear as a new approach to therapy for this condition. Adalimumab is the only one internationally registered agent and should be considered first after the conventional therapies appear insufficient. The efficacy and safety profile of some preparations, like infliximab and etanercept was confirmed so far in randomized trials, but there are some new biologics which are still being evaluated and require more rigorous examination.

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Patient Counseling/Communication

Adult female acne: A guide to clinical practice. Bagatin E, Freitas THP, Machado MCR, et al. *An Bras Dermatol.* 2019 Jan-Feb;94(1):62-75. doi: 10.1590/abd1806-4841.20198203. <https://www.ncbi.nlm.nih.gov/pubmed/30726466>

Background: Acne in women is often associated with anxiety and depression, and may persist from adolescence as well as manifest for the first time in adulthood. Genetic and hormonal factors contribute to its etiopathogenesis, and maintenance treatment is required, usually for years, due to its clinical evolution. **Objective:** To develop a guide for the clinical practice of adult female acne. **Methods:** A team of five experts with extensive experience in acne conducted a literature review of the main scientific evidence and met to discuss the best practices and personal experiences to develop a guide containing recommendations for the clinical practice of adult female acne. **Results:** The group of specialists reached consensus on the main guidelines for clinical practice, providing detailed recommendations on clinical picture, etiopathogenesis, laboratory investigation and treatment of adult female acne. **Conclusion:** Different from teenage acne, adult female acne presents some characteristics and multiple etiopathogenic factors that make its management more complex. This guide provides recommendations for best clinical practices and therapeutic decisions. However, the authors consider that additional studies are needed in order to provide more evidence for adult female acne to be better understood.

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