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New Medical Research

Spironolactone for adult female acne (SAFA): protocol for a double-blind, placebo-controlled, phase III randomized study of spironolactone as systemic therapy for acne in adult women. Renz S, Chinnery F, Stuart B, et al. BMJ Open. 2021 Aug 26;11(8):e053876. doi: 10.1136/bmjopen-2021-053876. https://pubmed.ncbi.nlm.nih.gov/34446504/

Introduction: Acne is one of the most common inflammatory skin diseases worldwide and can have significant psychosocial impact and cause permanent scarring. Spironolactone, a potassium-sparing diuretic, has antiandrogenic properties, potentially reducing sebum production and hyperkeratinisation in acne-prone follicles. Dermatologists have prescribed spironolactone for acne in women for over 30 years, but robust clinical study data are lacking. This study seeks to evaluate whether spironolactone is clinically effective and cost-effective in treating acne in women. Methods and analysis: Women (≥18 years) with persistent facial acne requiring systemic therapy are randomized to receive one tablet per day of 50 mg spironolactone or a matched placebo until week 6, increasing to up to two tablets per day (total of 100 mg spironolactone or matched placebo) until week 24, along with usual topical therapy if desired. Study treatment stops at week 24; participants are informed of their treatment allocation and enter an unblinded observational follow-up period for up to 6 months (up to week 52 after baseline). Primary outcome is the Acne-specific Quality of Life (Acne-QoL) symptom subscale score at week 12. Secondary outcomes include Acne-QoL total and subscales; participant acne self-assessment recorded on a 6-point Likert scale at 6, 12, 24 weeks and up to 52 weeks; Investigator's Global Assessment at weeks 6 and 12; cost and cost effectiveness are assessed over 24 weeks. Aiming to detect a group difference of 2 points on the Acne-QoL symptom subscale (SD 5.8, effect size 0.35), allowing for 20% loss to follow-up, gives a sample size of 398 participants. Ethics and dissemination: This protocol was approved by Wales Research Ethics Committee (18/WA/0420). Follow-up to be completed in early 2022. Findings will be disseminated to participants, peer-reviewed journals, networks and patient groups, on social media, on the study website and the Southampton Clinical Trials Unit website to maximize impact.

Investigation of relapse rate and factors affecting relapse after oral isotretinoin treatment in patients with acne vulgaris. Demirci Saaadet E. Dermatol Ther. 2021 Aug 24;e15109. doi: 10.1111/dth.15109. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34431590/

Background: Oral isotretinoin is the most effective treatment option used in acne treatment. However, varying rates of relapse have been reported after oral isotretinoin therapy. Objectives: To evaluate factors that affect relapse after oral isotretinoin treatment in patients with acne. Methods: In this cross-sectional study, 212 patients with acne using 0.3-1 mg/kg/day oral isotretinoin for at least 4 months were analyzed retrospectively regarding relapse frequency and factors that affected relapse. Results: In the study, the female-to-male ratio was 3.15, with a mean age of 23.5 ± 6.2 years. The relapse rate was found as 37.3%. The median time to relapse was 10 months. The relapse rate was higher in younger patients (age ≤ 20 years), macrocomedone-type acne, and those with residual lesions at the end of the treatment ($p<0.05$ and $p<0.01$, respectively). Conclusions: To prevent relapse in patients with acne using oral isotretinoin, it is of great importance to continue the treatment until complete clinical improvement and extend the treatment for at least one more month regardless of the cumulative dose. Relapse may also occur with younger age and macrocomedone-type acne.

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Tranexamic acid versus fractional carbon dioxide laser in post-acne hyperpigmentation. Tawfic SO, Abel Hay R, Salim H, Elmasry MF. Dermatol Ther. 2021 Aug 20;e15103. doi: 10.1111/dth.15103. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34414642/

Post-acne hyperpigmentation is a common undesirable sequela of acne vulgaris that causes distress for many patients. This study's objective was to compare the efficacy of both low-power/low-density fractional carbon-dioxide (CO_2) laser and tranexamic acid (TXA) microinjection on post-acne hyperpigmentation. Twenty-five post-acne hyperpigmentation patients (resistant to regular treatment for more than six months) were enrolled in this randomized split-face study. One side of the face was randomly assigned to low-power fractional CO_2 laser every four weeks and the other side was assigned to TXA intradermal-microinjection every two weeks for three months. Efficacy was evaluated using digital photography, dermoscopy, post-acne hyperpigmentation index (PAHPI), melanin index (MI), and erythema index (EI) at baseline and four weeks after the last session. Both fractional CO_2 laser and TXA microinjection treatment sides showed a significant reduction in the PAHPI and MI ($P < 0.001$). There was statistically significant difference with better percentage of improvement regarding total dermoscopic score on the fractional CO_2 laser side than the TXA microinjections side ($P < 0.009$). Both fractional CO_2 laser and TXA microinjection are effective and safe treatment options for post-acne hyperpigmentation with potential superiority of fractional CO_2 laser. We also believe that dermoscopy could be helpful tool for assessment of pigmentation depth in patients on treatment by analyzing the color pattern. ClinicalTrials.govID NCT03765021.

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Safety and efficacy of fractional radiofrequency for the treatment and reduction of acne scarring: A prospective study. Eubanks SW, Solomon JA. Lasers Surg Med. 2021 Aug 19. doi: 10.1002/lsm.23453. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34412150/

Objectives: Skin rejuvenation with radiofrequency has been a widely used treatment modality for the safe and efficient remodeling of the dermis and revision of textural irregularities, achieved with minimal downtime. The efficacy of fractional radiofrequency (FRF) specifically for acne scarring has not been widely established. The objective of this clinical trial was to establish the efficacy and safety of FRF for moderate to severe acne scarring in a wide range of Fitzpatrick skin types using two different applicator tips to deliver energy to the skin (80-pin of up to 124 mJ/pin and 160-pin of up to 62 mJ/pin). Methods: Enrolled subjects received a series of three FRF treatments to the full face, each 4 weeks apart. A visual analog scale was utilized to assess pain of the treatment. Subject satisfaction questionnaires were completed at follow-up visits at 6 and 12 weeks post final treatment. Photographs were graded for change by three blinded evaluators using the Global Aesthetic Improvement Scale (GAIS). Results: Image sets of 23 enrolled subjects were assessed by blinded evaluation, showing a statistically significant improvement ($p = 0.009$) from the baseline visit to the 12-week follow-up on the GAIS for acne scarring. Subject satisfaction was high with subjects giving an average satisfaction score of 3.27 ("satisfied") out of 4. Pain was "mild" as treatments were rated an average of 2.15 on a 10-point visual analog scale. The GAIS score of the 80-pin tip improved patients' acne scars treated with that applicator by 1.06 points and 0.85 for the 160-pin tip. Ninety-five percent (95.5%) of subjects reported either a mild, moderate, or significant improvement to their treatment area. Ninety-one percent of subjects reported that they would recommend the treatment to a friend. Conclusion: FRF produced a statistically significant improvement in acne scarring when assessed by independent blinded evaluators. No serious adverse events resulted from treatment by either applicator tip. Treatment pain was low and tolerable among subjects of all Fitzpatrick skin types. Subjects had high levels of satisfaction with the results.

Split-face clinical comparative study of fractional Er:YAG (2940nm) laser versus long pulsed Nd:YAG (1064nm) laser in treatment of atrophic acne scar. Al-Dhalimi MA, Dahham Z. J Cosmet Laser Ther. 2021 Aug 19;1-6. doi: 10.1080/14764172.2021.1967996. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34409915/
Despite various modalities used for treating acne scars, no single treatment modality was significantly satisfactory. We compare the efficacies of fractional Erbium: yttrium aluminum garnet (Er:YAG), 2940 nm, laser versus long-pulsed Neodymium: yttrium-aluminum-garnet (Nd:YAG), 1064 nm, laser for the treatment of acne scars. Twenty patients were treated in a randomized split-face manner. They underwent three sessions at a three-week interval. Assessment of the patient was done before each treatment and 3 months after the end of the treatment sessions. The treatment effect was evaluated objectively, according to Sharquie scores for grading scarring acne vulgaris and digital photographic assessment and subjectively, according to the patient's satisfaction. Results According to objective Sharquie scores, there were no significant differences in the response between the two types of laser used. Based on the visual analog score, there was a significantly higher score of improvement for the side irradiated with fractional Er:YAG (2940 nm) laser. Subjectively, the patients were significantly satisfied with the results on the fractional Er: YAG than on the long pulsed Nd:YAG side. Both lasers were effective, However, the improvement in appearance of acne scars was better with fractional Er:YAG laser with fewer side effects with Long Pulsed Nd:YAG laser.

The significant health threat from sunbed use as a self-treatment in patients with acne. Bali R, Ji-Xu A, Felton SJ. Clin Exp Dermatol. 2021 Aug 18. doi: 10.1111/ced.14899. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34407228/
Patients with acne are increasingly using sunbeds as a self-treatment despite harmful effects. Little is known about sunbed use in adult acne patients under dermatology care. This questionnaire study explored prevalence and behaviors surrounding sunbed use in acne patients at a UK dermatology center. 26% of respondents used sunbeds and were more likely to be older, female, have a longer duration of acne diagnosis and have previously been offered blue light therapy by their doctor ($p<0.05$ for all). 72% tanned at least weekly. Reasons for use included recommendations from external sources, including the Internet, perceived greater efficacy than physician-prescribed treatments and light therapy not being offered by a doctor. 49% of respondents were taking isotretinoin at the time of sunbed use. Dermatologists have a responsibility to address this gap in public awareness by directly counselling patients at risk of sunbed use, particularly for those concomitantly prescribed oral retinoid therapy.

Could endocrine disruptors be a new player for acne pathogenesis? The effect of bisphenol A on the formation and severity of acne vulgaris: A prospective, case-controlled study. Kaya Ozden H, Karadag AS. J Cosmet Dermatol. 2021 Aug 11. doi: 10.1111/jocd.14364. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34379355/
Background: Acne is one of the most common skin diseases in the adolescent period. Bisphenol A (BPA) is the most frequently observed endocrine-disrupting chemicals that we are exposed to in daily life. BPA can affect acne pathogenesis with similar biological activity on androgenic receptors. Aims: To investigate whether BPA levels play a role in the development and severity of acne in adults. Methods: Fifty-one adults with acne and 50 healthy controls, whose ages varied between 18 and 25 years and applied to our dermatology outpatient clinic, were evaluated. A questionnaire containing dietary and lifestyle habits for BPA exposure was filled. BPA and BPA glucuronides were analyzed in the LC-MS/MS system in the first-morning urine samples of the patients. Statistical significance was set at $p < 0.05$. Results: The median levels of total BPA were significantly higher in the acne group compared with the control group (7.94 (4.69-20.32) vs. 5.62 (1.52-21.05) μg/g creatinine, respectively; $p = 0.04$)). The acne severity was positively associated with the BPA values ($p = 0.00$ $rs = 0.534$). Higher BPA level was noticed in younger acne onset age ($p = 0.012$ $r = -0.349$) When the inquiry questions were evaluated, no difference was found between the study

groups regarding BPA exposure risk ($p > 0.05$). Conclusion: BPA could be a factor in acne development and its severity. Therefore, it may be beneficial to prevent BPA exposure and raise awareness in the adolescence and post-adolescence period, in which industrial products such as junk food and plastic bottled water are used more frequently.

Improvement in hidradenitis suppurativa and quality of life in patients treated with adalimumab: Real-world results from the HARMONY study. Hafner A, Ghislain PD, Kovács R, et al. J Eur Acad Dermatol Venereol. 2021 Jul 28. doi: 10.1111/jdv.17551. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34320249/

Background: Hidradenitis suppurativa (HS), a chronic, recurrent, debilitating skin disease, is characterized by painful, inflammatory, subcutaneous lesions of the axilla, inguinal, and anogenital regions. Overall prevalence of HS is ~1%, and impact of disease on patient quality of life (QoL) and healthcare resource utilization (HRU) is high. Objectives: To estimate the real-world effectiveness of adalimumab (Humira®) treatment in patients with moderate to severe HS on disease severity, pain, QoL, work productivity, and HRU. Methods: HARMONY (Effectiveness of adalimumab in moderate to severe hidradenitis suppurativa patients - a multi country study in real life setting) is a multicenter, post marketing observational study in adult patients with moderate to severe HS. Disease severity and QoL parameters were evaluated using validated measures at 12-week intervals over 52 weeks of treatment. The primary endpoint was the proportion of patients achieving a Hidradenitis Suppurativa Clinical Response (HiSCR: ≥50% reduction in abscess and inflammatory nodule count, with no increase in abscess and draining fistula counts relative to baseline) at 12 weeks. Secondary endpoints were HiSCR at 24, 36, and 52 weeks and changes in QoL parameters and work productivity assessments. Analyses were conducted using as-observed data. Results: The proportion of patients reaching the primary HiSCR endpoint was 70.2% (n=132/188 enrolled) and remained ≥70% until study completion. There were statistically significant ($P<0.0001$) reductions in worst and average skin pain. All of the QoL measures evaluated improved significantly ($P<0.0001$) by 12 weeks of adalimumab treatment, as did work productivity assessments ($P<0.05$), and there was a ~50% decrease in HRU between baseline and week 52. Adalimumab was well tolerated. Conclusions: In this real-world setting, adalimumab treatment of moderate to severe HS resulted in decreased disease severity and improvements in QoL and productivity. Response to adalimumab was rapid (within 12 weeks) and sustained (52 weeks). No unexpected safety signals were reported.

Ultrasound-guided injection of intralesional steroids in acute hidradenitis suppurativa lesions: A prospective study. Iannone M, Janowska A, Oranges T, et al. Dermatol Ther. 2021 Jul 23;e15068. doi: 10.1111/dth.15068. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34297465/

The management of hidradenitis suppurativa (HS) flares with intralesional steroids lacks strong scientific evidence but limited data suggest that it may be useful. The objective of this study is to assess the clinical and ultrasound responses of HS flares to ultrasound-guided injections of intralesional triamcinolone (40 mg/ml) with a dilution 1:4 versus 1:2 at 30-day (t1), 60-day (t2), and 90-day (t3) follow-up. We recruited patients with ≤3 acute lesions, unresponsive to topical therapy. At baseline we assessed lesions clinically and by ultra-high frequency ultrasound (48 or 70 MHz) and randomly performed an ultrasound-guided injection of triamcinolone. Assessments were repeated at t1, t2, and t3 follow-up, re-injecting the lesion in the case of no or partial response. We treated 49 lesions: 38.8% showed improvements at t1; 46.9% at t2; 6% at t3; and 8.3% showed no clinical and ultrasound improvements. Long-term follow-up data confirmed a statistically significant reduction in Visual Analogue Scale (VAS)-pain, Dermatology Life Quality Index (DLQI), and HS-Physician Global Assessment (HS-PGA), as well as edema and vascular signals. No adverse effects were reported. Our study suggests that ultrasound-injections with a 1:2 dilution are beneficial for HS flares that do not respond to topical treatment and should be included in the therapeutic algorithm.

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Anti-androgen therapy in hidradenitis suppurativa: Finasteride for females. Babbush KM, Andriano TM, Cohen SR. Clin Exp Dermatol. 2021 Jul 14. doi: 10.1111/ced.14847. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34260109/

Background: Given its widely accepted efficacy, androgen blockade therapy for hidradenitis suppurativa (HS) has become a standard of care. Although much less frequently used than spironolactone, a small number of HS studies have reported finasteride as an alternative in women. In this study, we describe the response to and perception of finasteride therapy in a diverse cohort of women with HS. Objective: We aimed to describe finasteride therapy in a diverse cohort of female patients with HS. Methods: We conducted an IRB-approved retrospective chart review and telephone survey of 20 female patients, 18-years or older, with a diagnosis of HS. Finasteride was prescribed by a single provider at a specialized hidradenitis suppurativa center. Results: The mean age of patients was 34.3 ± 13.5 years. Finasteride was initiated predominantly because of one or more contraindications to spironolactone or poor responsiveness. Most patients interviewed (90%; n=18) were willing to take finasteride again or continue with therapy if indicated. Ten patients (50%) reported overall satisfaction with finasteride; seven (35%) were neutral, and three (15%) were unsatisfied. No patients reported worsening disease activity while on finasteride, and only one (5%) reported decreased quality of life. When asked about side effects of finasteride, 80% (n=16) reported none; 20% (n=4) experienced one or more of the following: headache, nausea, menstrual irregularities, breast tenderness or reduced libido/sexual function. Conclusions: Our study suggests that androgen blockade therapy with finasteride is a safe and effective alternative for female patients with HS who have a contraindication(s) or intolerance to spironolactone.

Patient experiences with hidradenitis suppurativa: the Hidradenitis Patient Experience survey. Kashetsky N, Mukovozov IM, Pereira J, et al. Clin Exp Dermatol. 2021 Jul 8. doi: 10.1111/ced.14826. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34235774/

Background: Better understanding of the experience of people living with hidradenitis suppurativa (HS) is essential to identify gaps in current patient care and inform healthcare decision-making. Aim: To describe the patient experience of individuals with HS, including their path to diagnosis, symptom control, treatments, healthcare utilization, patient needs and impact on quality of life. Methods: The Hidradenitis Suppurativa Patient Experience survey was created, extensively reviewed and disseminated through engaging HS-related patient organizations, physician groups and social media groups. Results: In total, 537 respondents completed the survey; the mean age was 38 years (range 14-73 years) and 95% (510 of 537) were female. The mean number of treatment types per respondent was 15, and included antibacterial soaps (93.3%; 431 of 462), avoidance of tight clothing (90.9%; 419 of 462), use of oral antibiotics (79.7%; 368 of 462), nonprescription drugs (79.7%; 368 of 462) and topical antibiotics (77.1%; 356 of 262). Pain was poorly controlled in 46% of respondents (184 of 401). HS had a negative impact on the ability to work and attend school for 81% of respondents (337 of 415), with 59% (245 of 415) missing at least 2 days of work a month and 16% (66 of 415) missing > 11 days of work. The mean number of misdiagnoses per respondent was three and the median time to diagnosis was 10 years.

Comparison of the skin microbiota of patients with acne vulgaris and healthy controls. Shi J, Cheng JW, Zhang Q, et al. Ann Palliat Med. 2021 Jul;10(7):7933-7941. doi: 10.21037/apm-21-1482. https://pubmed.ncbi.nlm.nih.gov/34353080/

Background: Acne vulgaris is a chronic inflammatory skin disease of the pilosebaceous units which can affect the individual's physiological and psychological health. Abnormal growth of lipophilic anaerobic bacteria such as Propionibacterium acnes is reported to be a major factor in the development of acne. However, the relationship between skin microorganisms and acne has not been fully elucidated. Our study aimed to explore the microbial differences between patients with acne and healthy controls (HCs). Methods: The study involved 16 participants

diagnosed with acne vulgaris and 5 HCs. We collected skin microbe samples from the cheeks, brow, forehead, neck, chin, or chest of the participants with sterile cotton swabs depending on the location of the acne lesions. Cutaneous microbe samples from the participants were tested by 16s sequencing. Results: Patients with acne showed increased diversity of skin microbiota in their samples. OTU535601 (Lachnospiraceae), OTU4460604 (Clostridiales), OTU3217705 (Moraxellaceae), OTU1066814 (Prevotella), and OTU455671 (Lactococcus garvieae) were the top 5 most abundant species found in patients with acne but were not present in HCs. OTU423327 (Achromobacter), OTU4423360 (Stenotrophomonas), OTU993127 (Porphyromonas), OTU677680 (Prevotella), and OTU269901 (Pseudomonas) were the top 5 most abundant species in HCs but were not found in patients with acne. Conclusions: The present study has analyzed and compared the diversity and abundance of microorganisms and the characteristics of the main pathogenic bacteria in patients with acne and HCs. Our findings indicate the importance of maintaining the skin's commensal microflora balance with the development of acne vulgaris.

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The impact of acne treatment on skin bacterial microbiota: A systematic review. Lam M, Hu A, Fleming P, Lynde CW. J Cutan Med Surg. 2021 Aug 15;12034754211037994. doi: 10.1177/12034754211037994. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34396785/

Background: Microbial strains such as Cutibacterium acnes have been examined as contributors to the pathogenesis of acne. Given the prevalence of the disease among adolescents and adults, the overutilization of antimicrobial agents may breed resistance and alter commensal microflora. Objectives: To characterize the impact of acne treatment on the diversity and relative abundance of the cutaneous microbial community, particularly of the bacterial flora. Methods: An electronic search was conducted of Embase, MEDLINE, and the Cochrane Central Register of Controlled Trials (CENTRAL) on June 5, 2020. Interventional and observational studies examining patients receiving acne treatment with culture-independent, community-level analysis of the cutaneous microbiome were included. Results: Nine studies with 170 treated acne patients were included. Five studies reported a significant change in alpha diversity following treatment, 3 of which examining systemic antibiotics reported significant increases in diversity. Two of 3 studies examining effects of benzoyl peroxide reported a decrease in diversity. However, trends in diversity were heterogeneous among studies. Conclusions: While individual variability in microbiome composition, and study-level heterogeneity in study sampling techniques may limit quantitative synthesis, our results support findings that acne treatment, including those not considered to have antimicrobial properties, alters the composition of the cutaneous microbiome.

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Hidradenitis suppurativa: Where we are and where we are going. Scala E, Cacciapuoti S, Garzorz-Stark N, et al. Cells. 2021 Aug 15;10(8):2094. doi: 10.3390/cells10082094. https://pubmed.ncbi.nlm.nih.gov/34440863/

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease primarily affecting apocrine gland-rich areas of the body. It is a multifactorial disease in which genetic and environmental factors play a key role. The primary defect in HS pathophysiology involves follicular occlusion of the folliculopilosebaceous unit, followed by follicular rupture and immune responses. Innate pro-inflammatory cytokines (e.g., IL-1β, and TNF-α); mediators of activated T helper (Th)1 and Th17 cells (e.g., IFN-γ, and IL-17); and effector mechanisms of neutrophilic granulocytes, macrophages, and plasma cells are involved. On the other hand, HS lesions contain anti-inflammatory mediators (e.g., IL-10) and show limited activity of Th22 cells. The inflammatory vicious circle finally results in pain, purulence, tissue destruction, and scarring. HS pathogenesis is still enigmatic, and a valid animal model for HS is currently not available. All these

aspects represent a challenge for the development of therapeutic approaches, which are urgently needed for this debilitating disease. Available treatments are limited, mostly off-label, and surgical interventions are often required to achieve remission. In this paper, we provide an overview of the current knowledge surrounding HS, including the diagnosis, pathogenesis, treatments, and existing translational studies.

How safe and effective is prescribing oral isotretinoin to treat acne in renal dialysis patients? A systematic review. Gan A, Therianou A. Clin Exp Dermatol. 2021 Aug 13. doi: 10.1111/ced.14886. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34388284/

Acne is a common inflammatory dermatosis characterized by closed and open comedones, pustules, nodules, and/or cysts, often leading to secondary scarring. Severe acne is not uncommon in renal dialysis patients. The mechanism of this whilst still largely unknown, has previously been postulated to be related to the toxic effect of uraemia.1 Treatment has often been challenging with conventional treatments, which frequently fail to gain control over it. This includes topical treatments such as benzoyl peroxide, retinoids and antibiotics, as well as oral antibiotics and hormonal treatments.

Isotretinoin for acne vulgaris - an update on adverse effects and laboratory monitoring. Fallah H, Rademaker M. J Dermatolog Treat. 2021 Aug 11;1-27. doi: 10.1080/09546634.2021.1967269. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34379039/

A significant barrier to the usage of isotretinoin has been concerns regarding its adverse effect profile. The dose-dependent mucocutaneous side effects of isotretinoin are well recognized and easily managed, particularly if a lower dose is used. A possible association with depression has gained widespread media attention and is a source of concern for many patients and their carers, but data from prospective studies and recent meta-analyses has been reassuring. Furthermore, there has been much confusion amongst both patients and physicians regarding a possible association with inflammatory bowel disease, as well the ocular and rheumatological adverse effects of isotretinoin. We provide an update on the evidence surrounding the adverse effects of isotretinoin and discuss practical strategies to prevent and manage these adverse effects. We also discuss appropriate laboratory monitoring for patients taking isotretinoin.

Treatment outcomes of IL-17 inhibitors in hidradenitis suppurativa: A systematic review. Kashetsky N, Mufti A, Alabdulrazzaq S, et al. J Cutan Med Surg. 2021 Aug 8;12034754211035667. doi: 10.1177/12034754211035667. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34365863/

The IL-17 pathway is a potential therapeutic target shown to be implicated in hidradenitis suppurativa (HS), however, it remains unclear whether evidence from mechanistic studies may translate into clinical practice. This systematic review summarizes available treatment outcomes of IL-17 inhibitors in patients with HS. Embase, MEDLINE, PubMed, and clinicaltrials.gov were comprehensively searched on February 26, 2021 to include 16 original studies representing 128 patients with HS (mean age: 36.5 years; age range: 21-47 years; male: 50.0%). Treatment outcomes were reported for the following biologics: secukinumab (n = 105), brodalumab (n = 22), and ixekizumab (n = 1). Patients were classified as responders or non-responders according to achievement of a positive response/improvement based on criteria established for each included study. For secukinumab 57.1% (n = 60/105) of patients were responders in a mean response period of 16.2 weeks and 42.9% (n = 45/105) were non-responders; for brodalumab, 100.0% (n = 22/22) of patients were responders within 4.4 weeks; and the one patient treated with ixekizumab was a responder within 10 weeks. In conclusion, IL-17 inhibitors may serve as an effective therapeutic target in approximately two-thirds of patients with HS and can be considered in those who are refractory to other treatment modalities. We also stress the importance of consistent outcome measures to enhance evidence synthesis, decrease

reporting bias, provide potential for future meta-analysis, and ultimately improve clinical outcomes for patients with HS.

Pyogenic arthritis, pyoderma gangrenosum, and acne syndrome in a Chinese family: A case report and review of literature. Lu LY, Tang XY, Luo GJ, et al. World J Clin Cases. 2021 Aug 6;9(22):6393-6402. doi: 10.12998/wjcc.v9.i22.6393. https://pubmed.ncbi.nlm.nih.gov/34435004/

Background: Pyogenic arthritis, pyoderma gangrenosum, and acne (PAPA) syndrome is a rare autosomal dominant genetic disease characterized by severe autoimmune inflammation, caused by mutations in the PSTPIP1 gene. Due to PAPA heterogeneous clinical manifestation, misdiagnosis or delayed diagnoses are difficult to avoid. With the use of whole-exome sequencing, we identified a missense mutation in the PSTPIP1 gene in a Chinese family. To the best of our knowledge, this is the first case of PAPA reported in China. Case summary: A 9-year-old boy suffered from recurrent aseptic pyogenic arthritis triggered by minor trauma or few obvious predisposing causes for more than 3 years. Pyogenic arthritis occurred every 3-5 mo, affecting his knees, elbows, and ankle joints. Treatments, such as glucocorticoids, antibiotics, even surgeries could alleviate joints pain and swelling to some extent but could not inhibit the recurrence of arthritis. Similar symptoms were present in his younger brother but not in his parents. According to the whole-exome sequencing, a missense mutation in exon 11 of the PSTPIP1 gene (c.748G>C; p.E250Q) was detected in the boy, his younger brother and his father. Taking into account the similar phenotypic features with PAPA syndrome reported previously, we confirmed a diagnosis of PAPA syndrome for the family. Conclusion: In this case, a missense mutation (c.748G>C; p.E250Q) in PSTPIP1 gene was identified in a Chinese family with PAPA syndrome. Previous studies emphasize the fact that PAPA syndrome is hard to diagnose just through the clinical manifestations owing to its heterogeneous expression. Genetic testing is an effectual auxiliary diagnostic method, especially in the early stages of pyogenic arthritis. Only if we have a deep understanding and rich experience of this rare disease can we make a prompt diagnosis, develop the best clinical treatment plan, and give good fertility guidance.

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Hidradenitis suppurativa: Basic considerations for its approach: A narrative review. Anduquia-Garay F, Rodríguez-Gutiérrez MM, Poveda-Castillo IT, et al. Ann Med Surg (Lond). 2021 Aug 5;68:102679. doi: 10.1016/j.amsu.2021.102679. eCollection 2021 Aug. https://pubmed.ncbi.nlm.nih.gov/34401142/

Hidradenitis suppurativa is a chronic and debilitating skin disease, whose lesions can range from inflammatory nodules to abscesses and fistulas in the armpits, groin, perineum, inframammary region. Diagnosis can be confused with a large number of clinical pictures, and although studies on hidradenitis suppurativa are not so scarce in the literature, doctors are often unaware of this disease and therefore its diagnosis is often late. Pharmacological treatment ranges from retinoids to immunosuppression and radiation therapy, and surgical treatment ranges from incision and drainage to more complete excisions and laser therapies. Hidradenitis suppurativa is a disease seen and treated mainly by dermatologists and general surgeons, however, it is necessary for general practitioners to have basic knowledge about this entity, as they are the first line of care in the health system.

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Clinical implementation of biologics and small molecules in the treatment of hidradenitis suppurativa. Aarts P, Dudink K, Vossen ARJV, et al. Drugs. 2021 Aug;81(12):1397-1410. doi: 10.1007/s40265-021-01566-2. Epub 2021 Jul 20. https://pubmed.ncbi.nlm.nih.gov/34283386/

Hidradenitis suppurativa (HS) is a chronic, recurrent, auto-inflammatory skin disease originating from the hair follicles. The typical inflammatory nodules, abscesses, and draining sinus tracts (tunnels) are characterized by a massive influx of neutrophils, macrophages, B-cells, plasma cells, T helper (Th)1, Th17 cells and upregulation of pro-inflammatory

cytokines such as IL-1, IL-17, IL-12/23, and TNF-α. Over the last decades, several clinical trials evaluated the clinical efficacy of different biologics targeting these pro-inflammatory cytokines, in particular TNF-α and IL-1. However, adalimumab is still the only registered drug for HS. This review discusses biologics and small molecules with high level of evidence for their clinical application, provides guidance on when and how to use these biologics and small molecules in clinical practice, and elaborates on the combination with medical and surgical treatment options beyond the current guidelines. Furthermore, this review provides an overview of potential biologics and small molecules currently under investigation for novel targets in HS such as IL-36, C5a, Janus kinase family members, CD-40, LTA4 and CXCR1/2.

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Serum sickness-like reaction in an adolescent taking minocycline for acne. Lucido CT, Johnson J. S D Med. 2021 Jul;74(7):310-313. https://pubmed.ncbi.nlm.nih.gov/34449992/

We report a case of serum sickness-like reaction (SSLR) in a 14-year-old male taking minocycline for acne. The patient presented with urticarial rash, arthralgia/arthritis, and tender lymphadenopathy. Symptoms resolved with discontinuation of minocycline and treatment with prednisone, cetirizine, and ibuprofen. SSLR is a rare complication of minocycline treatment that may go unrecognized and underreported.

Unexpected complications: A case of rosacea fulminans in pregnancy. Ranpariya V, Baldwin H. Cutis. 2021 Jul;108(1):51-54. doi: 10.12788/cutis.0290. https://pubmed.ncbi.nlm.nih.gov/34397360/

Rosacea fulminans (RF) is a rare facial dermatosis that typically affects women with a fulminating course that presents with superficial and deep-seated papules, pustules, and nodules, as well as an intense reddish or cyanotic erythema localized to the face. Although the etiology of RF remains unknown, immunologic, hormonal, and vascular factors have been implicated. We describe a case of a 32-year-old pregnant woman presenting with RF. Presentation in a pregnant patient is not commonly reported and requires special consideration to manage.