

## What's in the journals

(Ones you might have missed and latest trends)

JoAnn See, Dermatologist at Central Sydney Dermatology

Dr See is a dermatologist in private practice in Sydney. She lectures internationally on the topic of acne and skin care. She is a member of the International Global Alliance to Improve Outcomes in Acne. Dr See has curated a list of some of the most interesting or notable research recently published internationally on acne.



### Trifarotene could reverse acne pathogenesis

Trifarotene is a topical retinoid selective for retinoic acid receptor gamma that was recently approved for treatment of acne vulgaris. **Dreno and colleagues** performed a gene expression analysis to identify the molecular and cellular impact of trifarotene treatment on acne papules. Individuals with moderate inflammatory back acne were treated with trifarotene 0.005% or vehicle cream for 27 days. Four biopsies were collected from each subject during the study. The researchers said: "We discovered a unique set of 67 genes modulated by trifarotene that are primarily involved in cellular migration, inflammation, and extracellular matrix reorganisation. Changes in cellular expression were similar in both trifarotene-treated and spontaneously-resolving lesions. However, only trifarotene treatment impacted SPP1+ macrophages, a subset of highly proliferative macrophages recently identified in fibrotic tissue. "These results show that trifarotene has a novel action in acne treatment by affecting epidermal and immune components of acne pathogenesis," the researchers said.

Endnote reference 1

### Azelaic acid peel inhibits sebum production in acne

A chemical peel with azelaic acid could prevent seborrhea over the long-term. The study assessed the severity of seborrhea among acne vulgaris patients and the effect of a 20% azelaic acid solution on the activity of sebaceous glands. Twenty seven women aged between 19 and 25 underwent six treatments with a 20% solution of azelaic acid to the face. **Szymańska and colleagues** tested the effectiveness of a 20% azelaic acid solution on the activity of sebaceous glands. Measurements were taken using a sebumeter, a device used to assess the degree of skin oiliness. The mean values of sebum levels decreased from 195.5 before the treatment to 162.7 2 weeks after the last treatment for the forehead. Similarly, measurements of the right cheek decreased from 175.3 to 141.3. After three months, measurements were 151.3 on the forehead and 138.9 on the cheek. "Chemical peel with 20% azelaic acid shows long-term sebostatic action, which inhibits the formation of new acne lesions," the researchers said. Endnote reference 2

### Tea tree oil may boost the efficacy and safety of azelaic acid

A hydrogel combining azelaic acid (AzA) with tea-tree oil (TTO) may be a more effective and safer drug delivery system for the treatment of acne, reducing the side effects of azelaic acid, according to **Bisht and colleagues**. Azelaic acid is used topically to reduce inflammation, but it has poor solubility and low skin penetrability, so high doses are required. As a result, adverse effects include skin irritation, dryness, scaling, peeling, and erythema. Tea tree oil has been used for several years to treat acne, the researchers wrote. The effectiveness and safety of a AzA and TTO combination was assessed in rats and mice. The microemulsion (ME) hydrogel composite formulations protected the direct exposure of the drug to the skin, the study found. "Thus, the developed AzA-TTO ME hydrogel composite promises an efficacious and comparatively safer drug delivery system for the topical therapy of acne vulgaris." Endnote reference 3



## Word on the street

### First topical antiandrogen cream available in US

The first topical antiandrogen has been approved by the FDA for the treatment of acne in people aged 12 or above. WINLEVI (clascoterone) cream 1% is now available in the US. This could be a game-changer for acne treatment once it arrives in the Australian market All About Acne co-chair Dr JoAnn See says.

Androgens are the main hormone that regulate sebum production, which is a major cause of acne in men and women. WINLEVI targets androgens and is the first FDA-approved topical therapy to do so, without triggering the systemic side effects associated with oral androgen receptor inhibitors. According to manufacturer of WINLEVI, Sun Pharmaceutical Industries, the most common side-effects include reddening, scaling or dryness, and itching during treatment.

Read related research article on p.2 ▶

### Lasers play a key role in treating acne scars

New technologies to treat acne have been developed in the last decade, but in some cases treatment guidelines haven't caught up with current knowledge. This study by **Salameh and colleagues** aimed to highlight the potential use of energy-based devices (EBDs) for acne scarring, offer recommendations for safe and efficacious treatment, and provide consensus-based EBD treatment options.

The study involved 24 plastic surgeons and dermatologists from 12 different countries, who made recommendations regarding the treatment of acne scars.

The most effective EBDs include ablative fractional lasers, non-ablative fractional lasers, vascular lasers, and radiofrequency devices, they concluded. Panel members were unanimous in their view that EBDs have a role in the management of acne scars, the authors wrote.

"Patients without access to these treatments may not be receiving the best available care for optimal cosmetic results," they wrote. "Future high-quality research and updated international treatment guidelines and reimbursement schemes should reflect this status." Endnote reference 4

## Lisa Byrom, Dermatologist, Brisbane

Dr Byrom is a consultant dermatologist who works in private practice in Brisbane and Rockhampton. She also is a Visiting Medical Officer at the Mater Hospital, Brisbane, and Townsville University Hospital. She has a special interest in adult-onset acne. This journal article on clascoterone cream as potential a new treatment option for acne caught her attention this month.



## Topical clascoterone cream offers new treatment option

By Dr Lisa Byrom

Increased circulating androgens are key in the multifactorial pathogenesis of acne. Androgen receptors are expressed throughout the skin. Circulating androgens such as testosterone and dihydrotestosterone stimulate sebum production in males and females and may also contribute to inflammation. Clascoterone is the first anti-androgen to have FDA approval for the treatment of acne in males and females over the age of 12 years old. Phase 3 clinical trials have demonstrated good efficacy and safety in the treatment of moderate to severe acne (IGA score >2) with 1% clascoterone cream. In this study by **Hebert and colleagues**, participants included males and females aged between 9 and 58 years old. They were randomised into either 1% clascoterone cream or vehicle cream and applied to their faces twice a day for 12 weeks. The study found 20% of participants of the treatment group had clear or almost clear skin (IGA score 0-1) at 12 weeks. There was a statistically significant improvement in total lesion count. At present this formulation is available to be compounded in Australia. It is available in the US as "Winlevi" cream. The development of a topical anti-androgen is exciting as it provides another treatment option for patients with hormonal acne who may not tolerate oral treatment. This may also help reduce the development of antibacterial resistance in acne patients. The combination with topical retinoids may be investigated in the future. *Endnote reference 5*

## More mental health support needed for children and teens

The chronic dermatologic conditions acne, atopic dermatitis and psoriasis all greatly impact children and their families.

**Kelly and colleagues** examined the impact of acne, atopic dermatitis and psoriasis on the mental health of children. The systematic review included 48 studies of children aged under 18, and the impact of skin disease on quality of life, including body image, self-esteem, stigmatisation and risk of suicide.

"Patients develop a number of coping skills to mitigate these negative experiences including avoidance and wearing more conservative clothing, which may affect their attendance at school as well as their choice of extracurricular activities," the researchers wrote.

"Those who are unable to develop healthy coping skills are at a greater risk of worsening psychosocial conditions, including depression and anxiety, which may increase their risk of suicidal behaviour."

While physicians understand the importance of treating physical symptoms and mental concerns, more interventions and clear guidelines would help manage the long-term impacts of acne among children and adolescents, the authors wrote.

"Multifaceted treatment focused on controlling physical symptoms along with interventions to build resilience and positive self-perception may equip paediatric patients with dermatologic conditions with the means to maintain a good quality of life and face future challenges." *Endnote reference 6*

## Topical retinoids reduce pigmentation

Acne is a common cause for post-inflammatory hyperpigmentation (PIH), particularly in people with skin of colour (SOC), and can often be more distressing than the acne itself.

Topical retinoids have been shown to reduce hyperpigmentation in people with SOC. "Therefore, treatment with topical retinoids should be started as early as possible unless contraindicated," **Callender and colleagues** wrote.

"For patients with sensitive skin, the newer lotions may be less irritating than older retinoid formulations. Combining retinoids with other topical agents and procedures such as superficial chemical peels can help to improve hyperpigmentation," they said.

"Primary acne lesions are likely to improve weeks before PIH resolves and helping patients manage their expectations may reduce frustration." *Endnote reference 7*



Without adequate support, teenagers with acne may develop negative coping mechanisms and depression or anxiety



Indian gooseberry extract has been found to suppress inflammation

## Herbal hydrogel helps accelerate wound healing

Previous studies have shown that green tea polyphenols, ginger (*Zingiber officinale* Rosc), Indian gooseberry (*Phyllanthus emblica*), and salicylic acid can be used to treat acne.

This study determined the efficacy of a herbal gel containing those four ingredients along with gelatin and carboxymethyl cellulose. The gel reduced inflammation and improved the rate of acne closure after 14 days of treatment, **Lin and colleagues** found.

"More than half of the 24 test subjects had a 50% healing rate," they wrote. "Current prescription drugs may not produce a change for four to eight weeks, but the herbal extract-loaded hydrogel cured acne rapidly, possibly due to the active ingredients and protection of the skin barrier from outer pathogens.

"Anti-inflammatory, anti-irritant, and antibacterial effects are the pharmacological features of natural products such as green tea, *P. emblica*, and ginger extracts and accelerate the wound healing process." *Endnote reference 8*

## Red seaweed a promising source of anti-acne compounds

Red seaweeds are rich in bioactive compounds, including antibacterial and anti-inflammatory compounds, and may be a promising source of natural anti-acne compounds, **Januário and colleagues** wrote.

Available research shows that red seaweed possesses potent anti-*C. acnes* and *S. epidermidis* activity, and there's a significant potential for them to be used in the treatment of acne inflammation. "Red seaweed-derived compounds, namely polysaccharides, terpenoids, fatty acids, and phenolic compounds, represent good sources of antibacterial and anti-inflammatory compounds with the potential to be applied in acne vulgaris research for new treatments," the authors wrote. *Endnote reference 9*

## Acne and rosacea in skin of colour

Acne and rosacea are common skin conditions among all ethnic groups, but have different presentations, triggers and consequences in people with skin of colour.

**Thiviyan Maruthappu and Melanie Taylor** write that acne can result in post-inflammatory hyperpigmentation and keloids scarring in skin of colour. Rosacea may be reported less frequently in people of colour due to a delayed diagnosis or late presentation.

This review in *Clinical and Experimental Dermatology* summarises the differences in diagnosing and managing these two skin conditions in patients with skin of colour. *Endnote reference 10*





SPONSORED CONTENT

# Acne can be irritating, but treatment shouldn't be

## Acnatac® (clindamycin 1% and tretinoin 0.025%): effective acne treatment with a low potential for skin irritation.<sup>1-4</sup>

When it comes treating acne, there are a wide range of topical options available to help manage this skin condition.<sup>5,6</sup> However, skin irritation is a known side effect of some treatments and can be the main reason for stopping their use.<sup>5,7,8</sup> This is particularly true of products containing benzoyl peroxide (BPO). Although it is an effective bactericidal agent, side effects such as skin irritation and dryness can make BPO intolerable to use.<sup>5</sup>

*"There is an urgent need for an antimicrobial agent with better tolerability than BPO in monotherapy and fixed combination therapies."<sup>8</sup>*  
Global Alliance to Improve Outcomes in Acne

### Acnatac®: a unique formulation that's BPO-free<sup>1</sup>

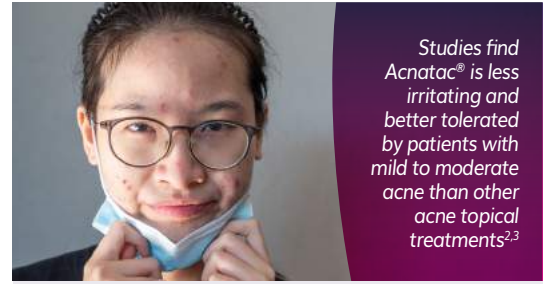
Fixed-dose combination topical treatments are recommended as first-line options in mild-moderate acne<sup>10</sup>. Acnatac® is a topical gel for people 12 years and over that have inflammatory and non-inflammatory acne.<sup>1</sup> Its unique, BPO-free, skin friendly formula of clindamycin and 2 forms of tretinoin starts to clear up mild-to-moderate acne in 2-4 weeks, and has a low potential for skin irritation.<sup>1-4</sup> Acnatac® adherence is high, with 9 in 10 people continuing to use Acnatac®, compared to 6 in 10 people using clindamycin and tretinoin separately (12-week study period assessment).<sup>9</sup>

*"You don't want your skin to be irritated when you already have the irritation by the acne..."*

Female with acne, aged 16 years<sup>11\*</sup>

Brisbane dermatologist and All About Acne committee member Dr Lisa Byrom said some acne products could be irritating. "Having a low-concentration tretinoin is useful for patients who might get irritated skin from those products."

For more information about Acnatac® or to order free support materials for your Acnatac® patients contact a Viatris Representative on [ausalesupport@viatris.com](mailto:ausalesupport@viatris.com) or call 1800 274 276.



Studies find Acnatac® is less irritating and better tolerated by patients with mild to moderate acne than other acne topical treatments<sup>2,3</sup>

### Is Acnatac® less irritating than BPO formulations? What does the research say?

Two 3-week, head-to-head, double-blinded studies assessed the tolerability of once-daily Acnatac® compared to adapalene 0.1%/BPO 2.5% gel.<sup>2,3</sup> In the study of 20 people that self-assessed treatment, Acnatac® was shown to have similar efficacy in treating mild to moderate acne but was better tolerated by patients than the adapalene/BPO formulation.<sup>2†</sup> In the other study of 24 people who also self-assessed treatment, Acnatac® caused significantly less burning/stinging sensation than the 0.1%/BPO 2.5% formulation.<sup>3†</sup>

### Guidance on skin care routine is also needed

Dr Byrom acknowledged that it was common for patients to use a range of skincare products to improve their acne, but that they needed guidance from their doctor. "Just giving patients a script isn't going to be effective, because they may still be using over-the-counter products. You need to address their entire skincare regime to optimise their results." She continued: "A simple, gentle cleanser and moisturiser with a recommended prescription topical may be all they need to treat their acne. A gentle wash and moisturiser can help 'reset' their skin before adding in a prescription. This will also allow topical treatments to do their job more effectively, rather than competing against non-complementary ingredients."

\*Example of patient feedback (n=50) of moderate-to-severe acne patients who rated 'fast acting' as an important attribute for an acne treatment.<sup>10†</sup> 21-day study. Subjects used a 4-point Likert-type scale to measure severity of burning/stinging and itching. The primary outcome was difference in transepidermal water loss at the end of treatment.<sup>2†</sup> 21-day study. Subjects used a 4-point Likert-type scale to measure severity of burning/stinging and itching. Subject self-assessments of burning/stinging was a secondary endpoint; primary outcome was the mean cumulative irritancy index score (mean of the sum of burning/stinging or itching scores from days 1-21 divided by the number of subjects multiplied by 21 readings).<sup>3</sup>

BPO: Benzoyl peroxide

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**PBS Information:** Acnatac® is not listed on the PBS. Before prescribing Acnatac® please review approved product information available from [www.medicines.org.au/i/view/gopacnatPI](http://www.medicines.org.au/i/view/gopacnatPI) or call 1800 274 276 ACN-2022-0014. March 2022, Viatris Pty Ltd, Millers Point 2000. ACN-2022-0014.

**Acnatac®**  
clindamycin 1% and tretinoin 0.025%

**We're changing the face of acne treatment<sup>1-5</sup>**

The only acne treatment in Australia with the **fixed-dose** combination of an antibiotic and retinoid in an **easy-to-use, BPO-free** gel that works to improve acne.<sup>1-5</sup>

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**PBS Information:** This product is not listed on the PBS.

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## Kurt Gebauer awarded OAM

Congratulations to All About Acne co-chair and Clinical Associate Professor Kurt Gebauer who has been awarded a Medal of the Order of Australia (OAM) for service to dermatology. Associate Professor Gebauer has contributed to over 40 clinical trials, authored over 40 journal articles, and been a guest speaker at various national and international meetings. He has been director of Fremantle Dermatology since 1992, and has worked as head of dermatology at Fremantle Hospital and director of the dermatology post-graduate training program in Western Australia.



## All About Acne

All About Acne is a not-for-profit organisation run by a team of leading Australian dermatologists. We provide independent, evidence-based news and information on the management of acne for healthcare professionals (HCPs) and people living with, or interested in, acne.

All About Acne publishes a website for HCPs and consumers ([www.acne.org.au](http://www.acne.org.au)), and a quarterly news publication for HCPs (Spot On). We also post acne content on Twitter, Facebook and Instagram.

Get in touch at [hello@acne.org.au](mailto:hello@acne.org.au) or register for updates at [acne.org.au](http://acne.org.au). You can also follow us on Twitter, Facebook and Instagram @AllAboutAcneAU.

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## Meet the team

Spot On is a quarterly news and research publication produced by the team at All About Acne for healthcare professionals interested in the latest research in the treatment and management of acne. Our team curates what we consider to be some of the more interesting or notable research papers published globally on acne, which we covered in more detail. Some of this new research is also published in the gated HCP section of our website ([www.acne.org.au](http://www.acne.org.au)).



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