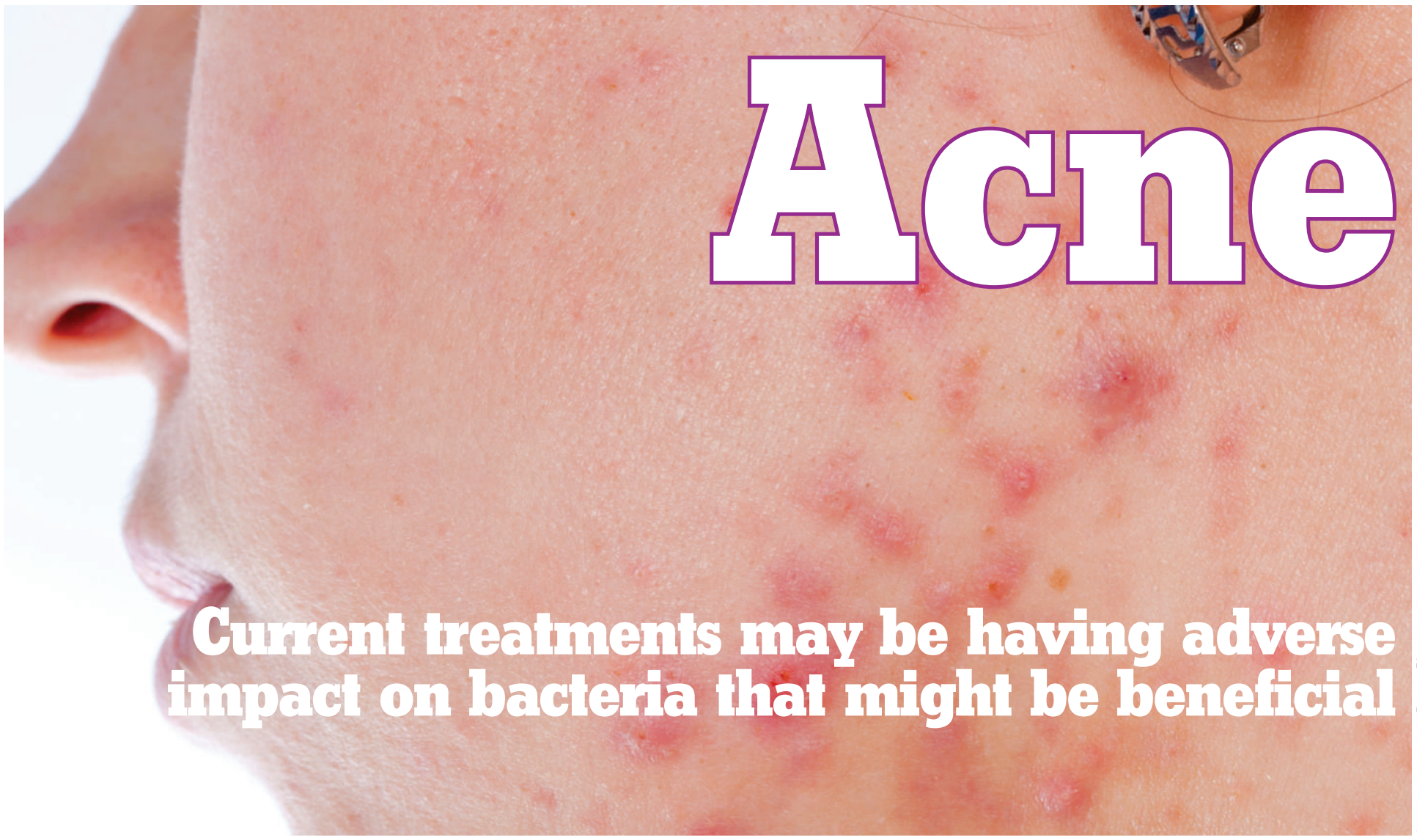
Clinical practice



Acne

Current treatments may be having adverse impact on bacteria that might be beneficial

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■ Targeted alternative strategies for acne treatment could help to preserve beneficial bacteria

by LOUISE GAGNON,
Correspondent, The Chronicle

A topical agent under study that involves the release of nitric oxide, the investigation of a novel antibiotic in the tetracycline family, and the ability to use lasers more quickly after isotretinoin therapy to treat acne scars are three of the advances in the management of acne that Canadian dermatologists are watching closely.

Data from three Phase I clinical trials presented earlier this year at the annual meeting of the Society for Investigative Dermatology demonstrated a topical gel that releases nitric oxide, known as SB204, was extremely safe to use.

"The early studies looked very good," said Dr. Benjamin Barankin, a Toronto dermatologist and co-founder of the Toronto Dermatology Centre. "It [the therapy] would represent another pathway [to target acne]. They can now move to efficacy and dosing studies."

Dr. Geeta Yadav, a staff dermatologist at Women's College Hospital in Toronto, noted that the research suggests a potentially new topical agent for acne that would produce little irritation.

"It would be exciting to have a different topical on the market that will offer increased tolerability," said Dr. Yadav in an interview with THE CHRONICLE OF SKIN & ALLERGY.

A new topical agent for acne would create an additional option for maintenance therapy, explained Dr. Yadav. "We may treat patients with a therapy like isotretinoin, but we want to use a topical therapy for maintenance," she said. "We need more topical options for maintenance treatment."

Dr. Benjamin Barankin

Dr. Shannon Humphrey

Dr. Geeta Yadav

Dr. Joseph Lam

Understanding of microbiome leading to new approaches to acne therapy

The microbiome is another burgeoning area of exploration that is potentially impacting the clinical approach to acne treatment.

Researchers from the University of California Los Angeles obtained skin follicle samples from subjects with and without acne and discovered that the bacterial community differed between the two groups of subjects (*Sci Rep* 2016 Dec. 21; 6:39491).

The investigators concluded that the findings suggest the usual "shotgun" approach to the treatment of acne, where both harmful and beneficial bacteria on the skin are eradicated, may be replaced with alternative targeted strategies, including the use of lotion that would contain probiotic bacteria to restore the health of the skin microbiome.

"We know that one element in the pathogenesis of acne is the presence of *P. acnes,*" said Dr. Yadav, noting current treatments may be having an adverse impact on bacteria that could be classified as beneficial.

"We need a diverse bacterial community on our skin to be healthy."

Dr. Barankin noted that the UCLA research also provided more information about the various strains of *P. acnes* and their functions. "We will likely see more targeted therapies that do not just kill all the bacteria on the skin but will increase the good

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Acne: *Targeted approaches may help preserve beneficial bacteria*

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bacteria on the skin," he said.

The role of diet in acne continues to be studied with more data supporting adherence to a low glycemic index/load diet to prevent acne (*J Am Acad Dermatol* 2014 Dec; 71(6):1053.e1–1053.e16).

According to Dr. Shannon Humphrey, a dermatologist and medical director at Carruthers & Humphrey in Vancouver, the approach to diet modification is one that she would recommend for a patient who wants to try to utilize a non-pharmacological strategy to manage acne.

"High glycemic index foods can exacerbate acne once it exists," said Dr. Humphrey. "For some patients, it [low glycemic index/load diet] may lead to significant improvement in control of their acne. These foods are less likely to cause perturbations in blood sugar." Dr. Humphrey is also a clinical assistant professor and director of continuing medical education in the Department of Dermatology & Skin Science, University of British Columbia, Vancouver.

Treatment must match patient values

Compliance to such an approach will be higher if patients are genuinely interested in modifying their diet, said Dr. Humphrey.

"Any acne treatment must match the values of a patient," she said. "We know that any acne treatment really takes several months for best effect. It not only needs to address clinical concerns, but it needs to represent the best evidence and needs to take into account patient preferences and values."

An emerging topical therapy developed in Canada, olumacostat glasaretil 7.5% gel, inhibits sebum production and has resulted in statistically significant differences in inflammatory lesions and non-inflammatory lesions, compared to placebo, in a 12-week, Phase IIa randomized study. The study involved 108 patients at 12 sites across the country. The therapy proved to be well-tolerated, with adverse events being mild, including erythema, pain, and dryness.

Dr. Joseph Lam, a pediatric dermatologist in Vancouver, a clinical assistant professor in the Department of Pediatrics at the University of British Columbia, and associate member, Department of Dermatology and Skin Science at UBC, has no direct experience with the experimental therapy but noted that the acetyl coA carboxylase inhibitor could potentially mean another topical treatment for acne vulgaris.

Dr. Barankin said inhibiting sebum via topical means is uncharted territory in acne management and would represent an innovative therapy. "We do not have a topical sebum inhibitor," said Dr. Barankin. "If you want to reduce sebum, at present you would have to use oral therapies such as isotretinoin, spironolactone or an oral contraceptive pill."

Antibiotics still being used long term

Some research has pointed to evidence of prolonged use of antibiotics to treat acne vulgaris. A retrospective, single-centre investigation found that the majority of patients (64.2%) were prescribed antibiotics for six months or more and 33.6% were prescribed antibiotics for one year or longer (*J Am Acad Dermatol* 2016 Feb; 74(2):273–279).

"There still needs to be education [about extended antibiotic use to treat acne]," said Dr. Lam. "Some patients with acne are on antibiotics for many months."

An antibiotic that is under study for moderate-to-severe acne is sarecycline, an antibiotic in the tetracycline family that will permit weight-based dosing and can be taken once daily, noted Dr. Barankin.

"Weight-based dosing makes it unique," said Dr. Barankin, noting that feature will permit more tailored therapy.

In addition, since it is a new medication, the therapy will offer little in the way of antibiotic resistance [to the therapy], said Dr. Barankin. "We need more choices in antibiotics because of the issue of resistance."

Dr. Yadav agreed that the availability of "narrow-spectrum" antibiotics such as sarecycline will help fight the problem of antibiotic resistance and provide more targeted treatment of acne.

Patients with acne scars don't need to wait up to a year to undergo laser treatment to try and diminish the appearance of their scars if they have been taking isotretinoin, said Dr. Barankin.

"There are more data about when you can use lasers if [the patient has] been using isotretinoin," he said.

"There is some research to show you can use non-ablative fractional lasers one month after using isotretinoin. We used to recommend that patients wait one year after stopping their isotretinoin treatment, but that is no longer the case."

But, what do *you* think?

A question for our readers: Do the acne patients in your clinical practice accept the fact that multiple treatment approaches may be needed to address their condition? Join the conversation and share clinical knowledge with your peers at **derm.city**

Non-proprietary and brand names of therapies: *isotretinoin (Accutane, Roche); isotretinoin variable dose (Epuris, Cipher); olumacostat glasaretil 7.5% gel (not approved in Canada); sarecycline (not approved in Canada).*