sis and actinic keratoses is expected to augment the management choices for Canadian dermatologists.

This year marked the availability of imiquimod cream 3.75%, a therapy that will make treatment for actinic keratoses more acceptable for patients, according to Dr. Peter Vignjvevic, a dermatologist in private practice in Hamilton, and an assistant professor at McMaster University in Hamilton.

"It [imiquimod cream 3.75%], is a modification to an existing drug helping to make [therapy] more tolerable," said Dr. Vignjvevic. "It is easier to counsel patients because it is a less complicated regimen to use. It is designed to increase compliance."

New vitamin D analogue

A topical psoriasis treatment called Silkis, known as the generic calcitriol ointment 3 mcg/g, is now available for patients in Canada and is indicated for moderately severe plaque psoriasis that affects up to 35% of the total skin surface. A vitamin D analogue, calcitriol can be used in combination with steroids. It decreases the excessive skin cell production seen in psoriasis through binding to the vitamin D receptors on keratinocytes, similarly to how natural vitamin D would bind.

Given that calcipotriol has shown demonstrated efficacy in controlling the symptoms of psoriasis, calcitriol is expected to find a role in the management of psoriasis, according to Dr. Vignjvevic.

"This is another Vitamin D compound," said Dr. Vignjvevic. "Usually they need a boost with steroids [to optimize their performance]."

A cosmetic therapy that received recent approval from Health Canada is bimatoprost ophthalmic solution 0.03%, which grows longer and darker eyelashes

The approval may also provide new treatment the eyes or eyelids, and rarely an irreversible change in the color of the iris.

Dr. Peter Vignjvevic

"They are pretty safe, but they are not without potential side effects," said Dr. Donovan, describing the more worrisome side effects of the prostaglandin analogs as very rare. "It is a discussion point for patients who are going to use the prostaglandin therapy, particularly if the use is cosmetic."

Dr. Jeff Donovan

Genetic research is shedding light on the relationship between chronic conditions and alopecia areata, noted Dr. Donovan. Investigators at Columbia University in New York conducted a genome-wide association study and detected 139 single nucleotide polymorphisms associated with alopecia areata, and published their findings in *Nature* in July of this year.

Dr. Benjamin Barankin

"There is ground-breaking work that identified several genes that are very important with alopecia areata," said Dr. Donovan. "The genes also seem to be important in diseases like Type 1 diabetes and rheumatoid arthritis."

Genetic studies may point way in alopecia areata

Since new therapies are in clinical trials to target Type 1 diabetes and rheumatoid arthritis based on genetic exploration, it is not unreasonable to expect such therapies may have direct application to the treatment of alopecia areata, said Dr. Donovan.

"These findings point the way to develop new treatments," said Dr. Donovan. "The excitement is that we will learn a lot about alopecia areata and new treat-

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New therapies: *Neomycin called the allergen of the year*

Continued from page 4

ments with this [genetic] information. It is still very early, but it represents a major breakthrough for a condition that is very common and sometimes very challenging to treat."

Growing research has pointed to the need for dermatologists to screen their male patients who have hair loss at a young age for other conditions, such as diabetes and cardiovascular disease, noted Dr. Donovan.

"We are increasingly understanding now that patients with androgenetic alopecia, especially at an early age, may have associated problems with lipids, fats, and cholesterol," said Dr. Donovan. "They may have increased risk for diabetes and cardiovascular disease as well.

Screen certain patients

"The research suggests that we should really be thinking about this in patients with early onset [hair loss]. For the young male, say between 18 and 30, who develops rapid balding, we need to think if the patient is at elevated risk for cardiovascular disease and whether we should be

dermatologist in private practice in Burnaby, B.C. and clinical assistant professor in the department of dermatology and skin science at the University of British Columbia.

"I am excited that this is available in Canada," said Dr. Withers. "It is a nice addition to our topical armamentarium [to treat rosacea]."

Briakinumab, an IL-12/IL-23 inhibitor, is being investigated to treat chronic plaque psoriasis, and approval of it for use in Canada is expected in the near future.

"It sounds like a fantastic drug with great efficacy, but the concern is around major cardiac adverse events," she said. "It will be a useful drug in the right population when it comes to market. I think it will be very much for a specific group of people."

Dr. Benjamin Barankin, a Toronto dermatologist and director of the Toronto Dermatology Centre, said the entry of a new moisturizer to treat irritant hand dermatitis or atopic dermatitis, called EpiCeram skin barrier emulsion, is a substantial advantage for patients.

Understanding of skin barrier

"It is a non-steroid and non-calcineurin inhibitor," said Dr. Barankin. "There are some data to suggest it is as efficacious as a mid-potency steroid. If patients are steroid-phobic or worried about the side effects with steroids, or worried about theoretical risks like lymphoma with a calcineurin inhibitor, this is a great option."

Dr. Barankin observed that therapies, such as ceramide-based moisturizers, are being increasingly designed to preserve the skin barrier.

"In the last few years, we have realized that one of the

Metronidazole Topical Gel 1%

In a 10-week controlled clinical trial in patients with rosacea, 557 patients used MetroGel (metronidazole gel) 1% and 189 patients used the gel vehicle once daily. Among the treatment groups, the adverse reactions considered related to treatment were low with comparable frequencies. The majority of the adverse reactions were mild or moderate in severity.

Adverse reactions considered related to once daily treatment with MetroGel 1% were reported at a frequency of <1% and are summarized in the table below.

Table 1: Adverse Reactions Attributed to MetroGel 1%†

SYSTEM ORGAN CLASS / ADVERSE REACTIONS	INCIDENCE (NO. OF PATIENTS)	SEVERITY (NO. OF PATIENTS)	FOLLOW-UP TREATMENT
Skin and subcutaneous tissue disorders			
Dry skin	0.9% (5)	mild (2) mild moderate	treatment required none required none required* none required**
Erythema	0.7% (4)	moderate (3) severe	none required* treatment required*
Pruritus	0.5% (3)	mild moderate severe	none required* none required* treatment required*

Metronidazole Topical Cream

In controlled clinical trials with MetroCream (metronidazole topical cream), the patient safety database included 71 evaluable patients. Adverse reactions attributed to the use of MetroCream are summarized in the table below.

Table 3: Adverse Reactions Attributed to MetroCream

SYSTEM ORGAN CLASS / ADVERSE REACTIONS	INCIDENCE (NO. OF PATIENTS)	SEVERITY	FOLLOW-UP TREATMENT
Skin and subcutaneous disorders			
Skin discomfort (burning & stinging)	2.8% (2)	moderate moderate	none required drug discontinued
Rosacea	1.4% (1)	mild	drug discontinued
Erythema	1.4% (1)	moderate	drug discontinued
Skin irritation	1.4% (1)	moderate	drug discontinued
Pruritus	1.4% (1)	moderate	none required

Metronidazole Topical Lotion

During controlled clinical trials with MetroLotion (metronidazole topical lotion), the patient safety database included 72 evaluable patients. Adverse reactions attributed to the use of MetroLotion are summarized in the following table.

major problems in dry skin and eczema skin is barrier function," Dr. Barankin said.

"There is a disturbance in the compartment where the ceramides are. The ceramides drop precipitously with a flare [of eczema]. The therapy is replacing the ceramides externally."

Another progressive step that was made this year was the approval of the calcineurin inhibitor tacrolimus to be used in a maintenance fashion in patients.

"When you are dealing with atopic dermatitis, it is a genetic disease," said Dr. Barankin. "We know it will come back. Once the person is cleared with daily therapy, putting them on maintenance therapy [used in particular body sites] is a good idea. It reduces the time to the next flare, and there are very good data to support that. Historically, we would send patients home and tell them to moisturize, but then they would flare up."

The North American Contact Dermatitis Group has identified the allergen of the year as the antibiotic neomycin.

Alitretinoin, an oral retinoid, was approved as a therapy for chronic hand eczema, and presents a management option for patients who have been resistant to topical therapies.

"These are patients who have severe hand eczema and who have not responded to topical therapy," said Dr. Barankin. "They typically take 30 mg of the drug with food each day. The side effects are similar to what occurs with [oral isotretinoin]."

Compounds that pose a risk of sensitization and threaten reactions such as allergic contact dermatitis or irritant contact dermatitis should be avoided, he added. The North American Contact Dermatitis Group has identified the allergen of the year as the antibiotic neomycin.

"It is a topical antibiotic that is readily available in the U.S.," said Dr. Barankin. "If [neomycin] is used over time, you can become sensitized to it."

If patients do develop allergic contact dermatitis in response to neomycin exposure, a strong steroid is in order. Future avoidance of the allergen is necessary, because further exposure can promote even more severe reactions, explained Dr. Barankin.

Patients with bedbug bites

The scourge of bedbugs in urban centers like Toronto has brought patients with bedbug bites to the offices of dermatologists like Dr. Barankin.

"It is not pleasant to give the diagnosis," said Dr. Barankin. "It is a very stressful and costly issue for our patients. They need to have their apartments or houses sprayed once or maybe even a few times [to get rid of the bedbugs]. They need to have their homes cleaned thoroughly."

Drug Interactions
Table 5: Established or Potential Drug-Drug Interactions

Metronidazole	Ref	Effect	Clinical comment
Coumarin and warfarin	C/CT	Potentiate the anticoagulant effect	Drug interactions are less likely with topical administration but should be kept in mind when metronidazole is prescribed for patients who are receiving anticoagulant treatment. Oral metronidazole has been reported to potentiate the anticoagulant effect of coumarin and warfarin resulting in a prolongation of prothrombin time.
Alcohol	T (topical) C (oral)	Disulfiram-like reaction	Oral metronidazole also interacts with alcohol, producing a disulfiram-like reaction. Although this adverse reaction has not been reported with topical application of metronidazole, a drug interaction of metronidazole-alcohol is a possibility.

Administration

Recommended Dose and Dosage Adjustment
MetroGel 1% (metronidazole topical gel 1%): Apply and rub in a thin film once daily to entire affected area(s).

MetroGel 0.75%, MetroCream 0.75%, AND MetroLotion 0.75% (metronidazole topical gel, cream and lotion): Apply and rub in a thin film twice daily, morning and evening, to entire affected areas.

Significant therapeutic results should be noticed within three weeks. Clinical studies have demonstrated continuing improvement through nine weeks of therapy. The dosage required for long-term administration is uncertain (see Warnings and Precautions section).

Administration
Areas to be treated should be cleansed before application of MetroGel, MetroCream, or MetroLotion. The face must be dry before applying medication.

Patients may use cosmetics after application of MetroGel, MetroCream, or MetroLotion. The medication should have absorbed into the skin ("dry") before the cosmetics are applied.

Overdosage