

Here comes the future



New procedures, therapies to watch for in 2011

■ Basal cell carcinoma is an example of a condition that, in the future, may be treated medically rather than surgically

by LOUISE GAGNON,
Correspondent, The Chronicle

Many options are expected to emerge in the near and not-so-distant future that will provide alternatives to traditional treatment and procedures in dermatology.

“As technologies get better and better, there is an impact on procedural dermatology in that we will get better and better in what we do,” says Dr. Adam Mamelak, a dermatologist and Mohs surgeon who divides his practice time weekly between Ottawa and the Greater Toronto Area.

The availability of new laser therapies and a growing number of fillers represent “a tremendous advantage” for patients, according to Dr. Mamelak, noting it was not that long ago that ablative resurfacing was limited in use because many patients did not tolerate the procedure very well. The emergence of new laser devices that are much better tolerated are making ablative resurfacing popular again.

One of the advances in laser technology has been the development of a new form of photodynamic therapy that utilizes red light, explained Dr. Mamelak.

“People are using this for actinic keratoses, but it will probably be tried with superficial skin cancers as well,” he says.

BCC treated medically rather than surgically

The progress in laser therapy and other aesthetic applications points to the fact that cosmetic medicine is now more accessible and more affordable, and it is becoming a lot better and safer, says Dr. Mamelak, an assistant professor in the faculty of medicine at the University of Ottawa.

Statistics from the American Society for Aesthetic Plastic Surgery support Dr. Mamelak’s claim of accessibility: Botox treatments rose by more than 500% between 2000 and 2009, and the use of soft-tissue fillers rose by 169% over the same period.

One of the areas of dermatology that is developing is the care and treatment of ethnic skin and pigmented skin, notes Dr. Mamelak, a trend that provides evidence a one-size-fits-all approach in dermatology does not cap-

ture all patients.

“We are learning how to individualize therapy a lot better to make patients a lot happier with the knowledge that is being accumulated,” he says.

Basal cell carcinoma is an example of a condition that, in the future, may be treated medically rather than surgically, explains Dr. Mamelak.

Patients who have basal cell nevus syndrome begin developing basal cell carcinomas at a young age and are subject to surgery to remove these skin cancers.

Basic research conducted over the last five years has pointed to a genetic mutation in a subset of patients who were predisposed to developing basal cell carcinomas. Specifically, Hedgehog signalling was abnormal and identified as the source that led to the formation of the skin cancers.

A study published in the *New England Journal of Medicine* pointed to the ability of a Sonic Hedgehog inhibitor to halt the growth of the tumors. Currently, numerous investigators around the globe, including those in Toronto, are studying the impact of Sonic Hedgehog inhibitors and their ability to treat basal cell carcinomas. If the trials prove the therapies to be safe and effective, medical therapy may represent a real option for patients.

“These are patients who may end up watching the tumors shrink right in front of their eyes,” says Dr. Mamelak.

New practices developed

There is fine-tuning in the practice of cosmetic dermatology that is creating greater patient acceptance of procedures. For example, current European practice is to use cannulas when injecting fillers, and that practice is starting to be duplicated in Canada, notes Toronto



Dr. Adam
Mamelak



Dr. Nowell Solish



Dr. Thomas
Nakatsui

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dermatologist Dr. Nowell Solish.

“There is less ‘poke’ when we inject our patients,” says Dr. Solish. “There is less bruising and less pain. It is a good option for the face and the cheeks.”

Another modification to the delivery of filling agents is the addition of lidocaine to many fillers, which reduces the discomfort of the experience, says Dr. Solish.

“The fillers now come pre-mixed,” he says. “The addition is great. It reduces the pain of injection by about 40 per cent, and there is less need for [any other] anesthetic.”

Topical agents to treat hyperhidrosis and to reduce fine wrinkles are being explored, but it is still expected to be years until such compounds become available, says Dr. Solish. “Early studies have been conducted, and there are promising results,” he says.

U.S.-based Revance Therapeutics Inc. is conducting clinical trials to determine the efficacy of a topical botulinum toxin type A, called RT001. The compound would present an alternative to injection.

There is no question that there is a market for agents like Botox, and Canadian clinicians are eagerly awaiting the approval and availability of botulinum therapies Xeomin and Dysport to give their patients another treatment choice.

Bimatoprost ophthalmic solution 0.03% was made available by prescription in Canada last year as a cosmetic option. Its ability to make eyelashes thicker, darker, and longer is welcomed by patients, but dermatologists warn that there are some potential side effects.

“You can get darkening of the iris, but it is rare,” says Dr. Thomas Nakatsui, a dermatologist and hair transplant surgeon in Edmonton. “You have to let your patients know that before they use [bimatoprost ophthalmic solution 0.03%] and make them fully aware of that. You have to select your patients well because it may bother a lot of patients.”

Topical therapies are not always effective in the treatment of hand eczema, so the availability of a systemic therapy in the form of the retinoid

alitretinoin is a long-awaited option for those patients whose chronic hand eczema does not respond to topical management, explains Dr. Nakatsui, a clinical lecturer at the University of Alberta in Edmonton. “[Alitretinoin] is a new medication, and it is an exciting option and it seems to be working,” Dr. Nakatsui says.

Dose adjustments for biologics

Platelet-rich plasma has been used on the scalp to grow

hair, but the efficacy has not been proven. Similarly, laser-hair stimulation has been applied as a means of growing hair, but results have not been successful. “There is no proof that [laser hair stimulation] actually works,” says Dr. Nakatsui.

Calcitriol ointment 3 mcg/g, a topical agent, has been added to the armamentarium of psoriasis therapies, and may be used in conjunction with an agent such as a

steroid, according to Dr. Nakatsui.

Clinicians are becoming more aware of the need to adjust the dosage of psoriasis medications depending upon the physical size of their patients, observes Dr. Mamelak.

“We know that the impact of the biologic agents, such as the TNF-alpha inhibitors, is that patients have brighter outlooks and they feel better,” says Dr.

Mamelak. “We have observed that sometimes we need to increase the dosage of the medications that we are giving. We need to give larger doses for our larger-sized patients. If we do this, we get better and sustained effects.”

“As we see more and more studies come forward [regarding the link between psoriasis and co-morbid diseases], we need to develop better screening and better

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therapies,” says Dr. Mamelak.

“The question is how aggressive we should be in dealing with the co-morbidities. We want to know what outcome we want with these patients.

“We may want to be more aggressive from a pre-

vention standpoint and place patients on an anti-hypertensive agent or place them on an agent that will lower their cholesterol levels,” says Dr. Mamelak.

“We may also want to prescribe lifestyle changes that will reduce their cardiovascular risks.”

Non-proprietary and brand names of therapies: *botulinum toxin type A (Botox Cosmetic, Allergan); clostridium botulinum neurotoxin type A (Xeomin, Merz Pharma); abobotulinumtoxin A (Dysport, Medicis); alitretinoin (Tocino, Actelion); bimatoprost ophthalmic solution 0.03% (Latisse, Allergan); calcitriol ointment 3 mcg/g (Silkis, Galderma).*

Training needed for individualized laser Tx

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management of complications. It's easy to use cookie cutter settings that come with the laser and push a button on the laser, but these settings are not always applicable. By failing to individualize treatment settings, complications may arise,” Dr. Bertucci said.

Treatment considerations

Dr. Bertucci recommends that, among other things,

laser settings be selected based on the individual's hair and skin color. Generally, he added that more gentle settings should be used among patients with darker skin types, especially those with skin phototypes four, five, and six.

Also, for darker skin types, Dr. Bertucci noted that using a longer pulse width so that energy is delivered over a longer period of time with less intensity per given unit of

time results in less risk of scarring and discoloration.

In cases where a patient has a tan, Dr. Bertucci suggests deferring treatment

Operators [of lasers for hair removal]

should also be knowledgeable about management of complications.

—Dr. Vince Bertucci

until the tan has faded. If the treatment has to be performed while the person has a tan then the settings for darker skin types should be selected in order to increase safety and reduce risk.

“It is important to avoid areas of the skin where there are problems such as rashes, or skin infections such as impetigo or herpes,” he cautioned.

Dr. Bertucci concluded that patients need to be advised about the warning signs and the signs of potential problems that might arise following a laser procedure, such as blisters, erosions, significant swelling, and extensive scabbing.

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