Strategic combinations
How to pair energy-based devices with injectables

WHITNEY J. PALMER | Staff Correspondent

In your practice, you might already combine energy-based devices and injectables when treating patients. But, to date, there’s also a chance you haven’t received much guidance on how best to use these strategies together.

During this year’s annual American Society of Laser Medicine & Surgery conference, industry experts provided insights on how dermatologists can pair these modalities to offer the highest quality patient care for clients. The “Optimizing Combination Therapies with Energy-Based Devices and Injectables” session was important, said Jeremy Green, M.D., voluntary assistant professor of dermatology at the University of Miami and Jackson Memorial Hospital, because it broached the use of combination therapies in a more public way.

“Although we have an array of technologies at our disposal, we don’t have a lot of good data at this point on the safety and efficacy of combining these modalities,” he said. “A lot of our knowledge, we learn from each other from experience, from trial and error and from what we can and can’t do safely.”

Together with other industry leaders, Dr. Green, who presented on how to put combination therapies to work, highlighted strategies to combine therapies most effectively, as well as the positives and negatives of this approach and stumbling blocks you should avoid.

WHAT YOU SHOULD KNOW
According to Vic Narurkar, M.D., founder of Bay Area Laser Institute in San Francisco, combining energy-based devices and injectables provides optimal outcomes for patients. It’s important to remember, though, that while some treatments are safe to provide same-day, others are not.

KEY STEPS TO AVOID A MALPRACTICE LAWSUIT

BOB KRONEMYER | Staff Correspondent

Aesthetic practices that provide laser and light-based therapies should be cognizant of legal issues that may affect the practices.

“Legal issues arise in all facets of medicine. However, in cosmetics, the patient’s expectation of outcomes is often tied to that of the clinician. Therefore, there is a heightened potential for patient dissatisfaction that can ultimately lead to legal action,” according to Mathew Avram, M.D., J.D., who spoke during a session at last month’s American Society for Laser Medicine and Surgery (ASLMS) annual meeting in Dallas.

The legal requirement for negligence is a breach of duty that causes harm which could constitute a malpractice action, he said. “Physicians can be held liable for the treatments or activities of their employees — even if the physician has not seen the patient himself,” said Dr. Avram, who is the president of ASLMS.

INFORMED CONSENT
Any patient undergoing treatment has the right to be informed of the risks and benefits of the procedure. It’s important to document the patient’s understanding of the procedure and any potential complications.

A HEMANGIOMA on a baby’s right lower lip is the kind of skin condition that dermatologists would be able to help diagnose, treat, and triage by teledermatology, according to one expert. FULL STORY ON PAGE 78>
Provide practical analysis of recent studies, regulatory updates, techniques, devices and business solutions; and facilitate discussion to optimize practice and improve patient care.

Dermatology Times is guided by a core of trusted industry experts who review meetings; suggest topics and sources; and conduct interviews.

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Dr. Goldberg received the Caroline and William Mark Memorial Award at the recent ASLMS meeting.

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Vertical integration is ... the consolidation of medical care under one corporate entity.

Vertical dermatology integration without dermatologists

by ZOE DIANA DRAELOS, M.D.

Dr. Draelos is a clinical and research dermatologist with Dermatology Consulting Services, High Point, N.C. and a consulting professor of dermatology, Duke University School of Medicine, Durham, N.C.

Many business phrases are entering the medical vernacular, including the term vertical integration. The adoption of business concepts into medical practice creates challenges for physicians who have little business background. It places too much focus on the medical business and not enough on the practice of medicine.

Vertical integration is not a new concept, just a new word for the consolidation of all aspects of medical care under one corporate entity. One of the most interesting examples of vertical integration is the purchase of national pharmaceutical chains and large physician groups by insurance companies. This allows an insurance company to control pharmaceutical, hospital, and physician costs while eliminating competition and changing traditional medical practices.

Consider the proposed purchase of CVS by Aetna. The plan would be to install medical clinics in all 10,000 CVS pharmacies staffed by nurse practitioners, who may or may not have undergone dermatology training. This might steer patients to nontraditional, more convenient and less expensive places to receive medical care rather than an emergency room.

It is estimated that 48% of all clinic visits would be dermatology related since dermatologic care offered in the United States, since nurse practitioners do not have the years of training required to become a board-certified dermatologist.

OTHER DRAMATIC CHANGES WOULD ALSO OCCUR

Only dermatologists who are employees of Aetna would likely receive referrals from the CVS clinics, which would be present on every corner. The other corners would be occupied by Walgreens, which recently merged with Rite Aid, and likely would organize a similar network with another large insurance conglomerate.

This vertical organization removes control of dermatology from the dermatologists and prevents dermatologists from determining what constitutes adequate dermatologic care.

Medicine as whole will be affected, as medical care will be delivered in a non-traditional setting. Patients will receive first line medical care in a pharmacy setting where cigarettes and alcohol are also sold. Further, medical care will occur under the auspices of a pharmacy and a conflict of interest might encourage over-prescribing.

There are many possible conflicts when insurance companies own physicians, hospitals, and pharmacies. In fact, the reverse is prohibited in many states prohibiting medical practices from dispensing and owning pharmacies.

It is quite amazing that insurance companies who are asking to increase consumer premiums by 10%-35% due to record losses have the capital to make such large purchases.

United Healthcare Optum has agreed to pay $4.9 billion dollars in cash to purchase DaVita, a for-profit chain of 300 dialysis centers, to add to its roster of 30,000 employed physicians and pharmacy-benefit manager.

This vertical integration is touted as a way to save money; however, the savings reflected as increased profits might be passed on to stockholders rather than to the patient. The patient might see limited choices for physicians or pharmaceuticals as insurers try to utilize the organizations they control. Past history has indicated that competition is the best way to lower costs for patients, which may be insufficient with vertical integration.

My biggest concern is that vertical dermatology integration will occur without the dermatologist. Dermatologists will become employees of insurance companies and will only see patients that are referred by non-physician extenders in a pharmacy setting who have mis-prescribed, misdiagnosed, or mistreated patients who did not improve.

Only patients who do not get better and insist on seeing a dermatologist will be referred to contain costs. Dermatologists will only be allowed to prescribe medications that are financially beneficial for the insurance company based on their pharmacy-benefit manager relationships.

Vertical integration is a relatively new medical concept that dermatologists should carefully consider when navigating medical practice in an increasingly complicated insurance environment.
Can I be sued for off-label use within standard of care?

by DAVID J. GOLDBERG, M.D., J.D.

Dr. Goldberg is director of Skin Laser and Surgery Specialists of New York and New Jersey, past director of Mohs and Laser Research, Icahn School of Medicine at Mt. Sinai; and, adjunct professor of law, Fordham Law School in New York City.

Several years ago, Dr. Bug treated an adult woman for scabies. At the time, the treatment of choice was Lindane. Dr. Bug learned during his residency that one application of the medication was not usually effective and that adult patients should be treated topically for three consecutive nights. This particular patient was treated for two consecutive nights.

A few days later, the patient returned alleging many vague symptoms that she felt resulted from the use of the topical. The complaints were multiple including facial pain (that followed no nerve distribution), pain and areas of numbness. Soon thereafter, the dermatologist was served with a multimillion dollar lawsuit, based on his “misuse” of lindane. The substance of the lawsuit was based on the Physician Desk Reference (PDR) emphasis on “…one application of lindane was usually curable…”

Dr. Bug does not understand. He has always been taught the jargon that is seen as a direct quotation contained within the PDR that states that once a medication was approved by the U.S. Food and Drug Administration, a physician could use the medication for other uses. Dr. Bug seeks legal help and is assured by his attorney that he will have no difficulty getting an expert witness to testify that his practice approach was consistent with the reasonable standard of care.

As the case progressed, the patient plaintiff was initially unable to secure an expert witness, or introduce any evidence from other physicians (ENT, Neurology), that concluded her symptoms were real, or had been caused by the Lindane. Dr. Bug’s attorney sought to have the case thrown out of court. At the last minute, the patient was able to secure an expert opinion, from a family practice physician, that initially stated that the plaintiff’s symptoms were caused by the Lindane. Later, the expert retracted his views — but the damage had been done. The case now progressed to trial without the plaintiff having an expert witness. Without an expert for the plaintiff, the plaintiff’s attorney used Dr. Bug as an expert witness against himself.

At trial, the plaintiff’s attorney attempted to use the PDR as the standard of care and sought for Dr. Bug to recognize the PDR as the standard of care, since the DPR stated “…one application is usually curable.” Therefore, the plaintiff’s expert concluded that Dr. Bug’s misuse of Lindane was the cause of all of the patient’s symptoms.

This case actually did occur against a dermatologist in Texas (true name protected). Dr. Bug was the only witness called to testify other than the patient and her husband. Among other things, the plaintiff’s attorney attempted to introduce various text books, as the basis for the standard of care.

While Dr. Bug acknowledged that he was familiar with the text books, he did not recognize any one of them as the standard of care. He correctly stated that he used many sources of information, including training in dermatology, many years of practice, books, medical journals, and continuing medical education to arrive at the appropriate care and treatment of every patient.

Ultimately, five years after the initiation of the lawsuit, Dr. Bug won a verdict for himself. Practicing within the standard of care may protect you from losing a malpractice case. It does not stop a patient from pursuing litigation.

In the end, practicing within the standard of care generally protects us from losing a medical malpractice case. Unfortunately, it does not stop any patient and/or her lawyer from initiating a lawsuit.

Dr. Goldberg is director of Skin Laser and Surgery Specialists of New York and New Jersey, past director of Mohs and Laser Research, Icahn School of Medicine at Mt. Sinai; and, adjunct professor of law, Fordham Law School in New York City.
FDA WARNS ABOUT OPIOID-CONTAINING SUPPLEMENT

THE U.S. FOOD AND DRUG ADMINISTRATION said the manufacturer of dietary supplements containing kratom, a natural opioid used to treat opioid use disorder, has agreed to destroy its supplements, and is again warning the public about kratom.

Divinity Products Distribution in Grain Valley, Mo., issued a voluntary nationwide recall of its Botany Bay, Enhance Your Life and Divinity supplements that contain kratom. The company also agreed to stop selling all kratom-containing products, FDA said in a statement.

“The extensive scientific data we’ve evaluated about kratom provides conclusive evidence that compounds contained in kratom are opioids and are expected to have similar addictive effects as well as risks of abuse, overdose and, in some cases, death,” said FDA Commissioner Scott Gottlieb, M.D., in the statement. “At the same time, there’s no evidence to indicate that kratom is safe or effective for any medical use.”

FDA’s new action follows previous warnings from the agency about kratom — a plant that grows in Thailand, Malaysia, Indonesia and Papua New Guinea. FDA is also assessing peer-reviewed research and a growing number of adverse event reports associated with kratom use, including 44 reported deaths.

In addition, the FDA and CDC are monitoring an active nationwide outbreak of a rare type of salmonella associated with kratom products.

“This outbreak associated with kratom-containing capsules, teas and powders, underscores the risk that harmful bacteria may contaminate these products when not subjected to manufacturing controls to eliminate that risk, in addition to the overall safety concerns for kratom itself,” the FDA stated.

AMA SURVEY HIGHLIGHTS NEED FOR PRIOR AUTHORIZATION REFORM

RECENT SURVEY RESULTS released by the American Medical Association underscore the need to reform prior authorization programs. The survey, which examined the experiences of 1,000 patient care physicians, found that many physicians are waiting at least one business day for prior authorization decisions and that these wait times are impacting patient care. ¹

“In practice, insurers eventually authorize most requests, but the process can be a lengthy administrative nightmare of recurring paperwork, multiple phone calls and bureaucratic battles that can delay or disrupt a patient’s access to vital care,” said dermatologist and AMA Chair-elect Jack Resneck Jr., M.D., in a press release.

In response to these challenges, the AMA has convened organizations representing a number of stakeholders, including pharmacists, physicians, hospitals and health insurers, to collaborate on methods for improving the process. Dr. Resneck stated. In January 2017, the AMA, along with these groups, urged for reform to prior authorization requirements. ²

At the beginning of this year, the AMA collaborated with several other organizations on a consensus statement outlining a shared commitment to industry-wide improvements to prior authorization processes and patient-centered care. ³

In March of this year, the AMA and Anthem announced that they would partner to “identify and collaborate on solutions that drive a high-value experience for patients, physicians, other health care professionals and health plans.” ⁴

The AMA continues to seek ways to partner with other stakeholders to improve the prior authorization process. The organization has produced a number of resources to help with addressing the current process, which can be found on their website at http://bit.ly/priorauthresources.

REFERENCES
The Only FDA Approved Clobetasol Propionate 0.025%

**IMPLOY™ (clobetasol propionate) Cream 0.025%**

*is indicated for the treatment of moderate to severe plaque psoriasis in patients 18 years of age and older.*

**IMPORTANT SAFETY INFORMATION**

**Warnings and Precautions**

Topical corticosteroids, including IMPLOY Cream can cause reversible hypothalamic-pituitary-adrenal (HPA) axis suppression with the potential for glucocorticosteroid insufficiency. This may occur during treatment or after withdrawal of treatment. This may require that patients be evaluated periodically for evidence of HPA axis suppression. Factors that predispose to HPA axis suppression include, use of high-potency steroids, large treatment surface areas, prolonged use, use of occlusive dressings, altered skin barrier, liver failure, and young age. If HPA axis suppression occurs, gradually withdraw the drug, reduce frequency of application, or substitute with a less potent corticosteroid. If signs and symptoms of withdrawal occur, systemic corticosteroids may be required. Recovery of HPA axis function is generally prompt and complete upon discontinuation of topical corticosteroids. Although rare, systemic effects of topical corticosteroids may manifest as Cushing’s syndrome, hyperglycemia, and glucosuria. Pediatric patients may be more susceptible to systemic toxicity because of their larger skin surface to body mass ratios. **Local Adverse Reactions with Topical Corticosteroids** - Local adverse reactions from topical corticosteroids may be more likely to occur with occlusion, prolonged use, or use of higher potency corticosteroids. Some local adverse reactions may be irreversible. **Concomitant Skin Infections** - Use an appropriate antimicrobial agent if a skin infection is present or develops. If appropriate, discontinue use of IMPLOY Cream. **Allergic Contact Dermatitis** - Allergic contact dermatitis with corticosteroids is usually diagnosed by observing failure to heal rather than noting a clinical exacerbation. **Adverse Events** - The adverse reaction that occurred in at least 1% of subjects treated with IMPLOY Cream and at a higher incidence than in subjects treated with vehicle cream was application site discoloration (2% versus 1%). Less common local adverse events occurring in < 1% of subjects treated with IMPLOY Cream were application site atrophy, telangiectasia and rash.
INDICATIONS AND USAGE
IMPOYZ Cream 0.025% is indicated for the treatment of moderate to severe plaque psoriasis in patients 18 years of age and older.

DOSAGE AND ADMINISTRATION
Apply a thin layer of IMPOYZ Cream to the affected skin areas twice daily and rub in gently and completely. Use IMPOYZ Cream for up to 2 consecutive weeks of treatment. Treatment beyond 2 consecutive weeks is not recommended, and the total dosage should not exceed 50 g per week because of the potential for the drug to suppress the hypothalamic-pituitary-adrenal (HPA) axis [see Warnings and Precautions (5.1)]. Discontinue IMPOYZ Cream when control is achieved. Do not use if atrophy is present at the treatment site. Do not bandage, cover, or wrap the treated skin area unless directed by a physician. Avoid use on the face, scalp, axilla, groin, or other intertriginous areas. IMPOYZ Cream is for topical use only. It is not for oral, ophthalmic, or intravaginal use. Wash hands after each application.

DOSAGE FORMS AND STRENGTHS
IMPOYZ Cream, 0.025%; each gram contains 0.25 mg of clobetasol propionate in a white to off-white cream base.

CONTRAINDICATIONS
None.

WARNINGS AND PRECAUTIONS
Factors that predispose a patient to HPA axis suppression include the use of high-potency steroids, large treatment surface areas, prolonged use, use of occlusive dressings, altered skin barrier, liver failure, and young age. Evaluation of adrenal function should be considered in patients treated with topical corticosteroids, particularly with high-potency topical corticosteroids. Use with caution in patients at risk for HPA axis suppression due to the potential for the drug to suppress the hypothalamic-pituitary-adrenal (HPA) axis [see Warnings and Precautions (5.1)]. Discontinue IMPOYZ Cream when control is achieved. Do not use if atrophy is present at the treatment site. Do not bandage, cover, or wrap the treated skin area unless directed by a physician. Avoid use on the face, scalp, axilla, groin, or other intertriginous areas. IMPOYZ Cream is for topical use only. It is not for oral, ophthalmic, or intravaginal use. Wash hands after each application.

ADVERSE REACTIONS
Local Adverse Reactions with Topical Corticosteroids
Local adverse reactions from topical corticosteroids may include atrophy, striae, telangiectasia, burning, itching, irritation, dryness, folliculitis, acneiform eruptions, hyperpigmentation, perioral dermatitis, allergic contact dermatitis, secondary infection, and miliaria. These may be more likely to occur with occlusive use, prolonged use, or use of higher potency corticosteroids, including IMPOYZ Cream. These adverse reactions may be irreversible.

Concomitant Skin Infections: Use of an antimicrobial agent if a skin infection is present or develops. If a favorable response does not occur, discontinue use of IMPOYZ Cream until the infection has been adequately treated. Allergic Contact Dermatitis: Allergic contact dermatitis with corticosteroids is usually diagnosed by observing failure to heal rather than noting a clinical exacerbation. Such an observation would be corroborated by positive patch testing. If irritation develops, discontinue the topical corticosteroid and institute appropriate therapy.

ADVERSE REACTIONS
Clinical Trials Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug, and may not reflect the rates observed in practice. IMPOYZ Cream was evaluated in two randomized, double-blind, placebo-controlled clinical trials in subjects with moderate to severe plaque psoriasis. Subjects applied IMPOYZ Cream twice daily to 20% of involved Body Surface Area (BSA) for 15 days. Abnormal ACTH stimulation tests suggestive of HPA axis suppression were seen in 3 of 24 (12.5%) subjects on IMPOYZ Cream [see Clinical Pharmacology (12.2)]. In another trial to evaluate the effects of IMPOYZ Cream on the HPA axis, subjects with moderate to severe plaque psoriasis applied IMPOYZ Cream twice daily to at least 25% of involved BSA for 28 consecutive days. Abnormal ACTH stimulation test suggestive of HPA axis suppression was seen in 8 of 26 (30.8%) of subjects on IMPOYZ Cream. If HPA axis suppression is documented, gradually withdraw the drug, reduce the frequency of application, or substitute with a less potent corticosteroid. If signs and symptoms of steroid withdrawal occur, supplemental systemic corticosteroids may be required. Recovery of HPA axis function is generally prompt and complete upon discontinuation of topical corticosteroids. Systemic effects of topical corticosteroids may also manifest as Cushing’s syndrome, hyperglycemia, and glucosuria. These complications are rare and generally occur after prolonged exposure to larger than recommended doses, particularly with high-potency topical corticosteroids. Use of more than one corticosteroid-containing product at the same time may increase the total systemic exposure to topical corticosteroids. Minimize the unwanted risks from endocrine effects by mitigating risk factors favoring increased systemic bioavailability and by using the product as recommended [see Dosage and Administration (2)]. Pediatric patients may be more susceptible to systemic toxicity because of their larger skin surface to body mass ratios [see Use in Specific Populations (8.4)].

Local Adverse Reactions
The following adverse reactions have been identified during post-approval use of clobetasol propionate: striae, irritation, dryness, acneiform eruptions, hyperpigmentation, perioral dermatitis, allergic contact dermatitis, secondary infection, infection, and miliaria. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

INCREASED RISK OF CARCINOGENESIS
Clobetasol propionate was not mutagenic in three different test systems: the Ames test, the Saccharomyces cerevisiae gene conversion assay, and the E. coli B WP2 fluctuation test. Fertility studies conducted in rats revealed in the rat following subcutaneous administration of clobetasol propionate at dosage levels up to 0.05 mg/kg/day revealed that females exhibited an increase in the number of resorbed embryos and a decrease in the number of live fetuses at the highest dose. All animals were observed for evidence of HPA axis suppression. Systemically administered corticosteroids appear in breast milk and may reduce the amount of milk produced. Systemically administered corticosteroids are capable of producing glucocorticoid receptor binding quantities in human milk. The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for IMPOYZ Cream and any potential adverse effects on the breastfed infant from IMPOYZ Cream or on the underlying maternal condition. Clinical Considerations: To minimize potential exposure to the breastfed infant via breast milk, use IMPOYZ Cream on the smallest area of skin and for the shortest duration possible while breastfeeding. Advise breastfeeding women not to apply IMPOYZ Cream directly to the nipple and areola to avoid direct infant exposure.

PEDIATRIC USE
The safety and effectiveness of IMPOYZ Cream in infants younger than 1 year of age has not been established; therefore, do not use in children younger than 18 years is not recommended. Because of a higher ratio of skin surface area to body mass, pediatric patients are at a greater risk than adults of systemic toxicity, including HPA axis suppression, when treated with topical drugs [see Warnings and Precautions (5.1)]. Rare systemic toxicities such as Cushing’s syndrome, linear growth retardation, delayed weight gain, and intrauterine hypertension have been reported in pediatric patients, especially those with prolonged exposure to large doses of high potency topical corticosteroids. Local adverse reactions involving skin and atrophy have also been reported with use of topical corticosteroids in pediatric patients. Avoid use of IMPOYZ Cream in the treatment of diaper dermatitis.

GERIATRIC USE
Clinical studies of IMPOYZ Cream did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience with topical corticosteroids has not identified differences in responses between the elderly and younger patients. NONCLINICAL TOXICOLOGY Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term animal studies have not been performed to evaluate the carcinogenic potential of clobetasol propionate cream. In a 13-week repeat dose toxicity study in Sprague-Dawley rats, topical administration of clobetasol propionate cream, 0.001, 0.005 and 0.025 % at corresponding doses of 0.004, 0.02 and 0.01 mg/kg/day resulted in corticosteroid class-related systemic effects such as reductions in body weight gain, reductions in total leucocytes and individual white cells, decrease in weight of adrenals, thymus, spleen, liver and lung. Histologically, there were decreased hematopoiesis in the bone marrow, thymic atrophy and mast cell infiltration of the mesenteric lymph nodes. All these effects were indicative of severe immunosuppression consistent with long-term exposure to corticosteroids. A no observable adverse effect level (NOAEL) was determined to be clobetasol propionate cream, 0.001% (0.004 mg/kg/day) in male rats while a NOAEL of 0.01% (0.02 mg/kg/day) was found in females. The clinical relevance of the findings in animals to humans is not clear; but sustained glucocorticoid-related immune suppression may increase the risk of infection and possibly the risk of carcinogenesis. Clobetasol propionate was not mutagenic in three different test systems: the Ames test, the Saccharomyces cerevisiae gene conversion assay, and the E. coli B WP2 fluctuation test. Fertility studies conducted in the rat following subcutaneous administration of clobetasol propionate at dosage levels up to 0.05 mg/kg/day revealed that females exhibited an increase in the number of resorbed embryos and a decrease in the number of living fetuses at the highest dose.

Manufactured by DPT Laboratories Ltd. San Antonio, TX 78213 For Encore Dermatology, Inc. Scottsdale, AZ 85254 © 2018 Encore Dermatology, Inc., Malvern, PA 19355 IMPOYZ is a trademark of Encore Dermatology, Inc.
PHYSICIANS HONORED AT ASLMS

THE AMERICAN SOCIETY FOR LASER MEDICINE AND SURGERY HONORED the following physicians during their annual meeting held last month in Dallas. Please note that this is an abbreviated list of all meeting honorees.

Presidential citations honorees: H. Ray Jalian, MD, Serge R. Mordon, Ph.D., Carolyn Cafinazzo, RN, Henry H.L. Chan, M.D., Ph.D., Raymond J. Lanzafarne, M.D., Gary P. Lask, M.D., Stuart Nelson, M.D., Ph.D.

OTHER AWARDS:

Tina S. Alster, M.D.
ASLMS Leadership, Mentorship & Public Advocacy for Women in Medical Science Award. This is presented to an individual who has significantly promoted the professional development of women in specialties using lasers and/or energy-based devices through teaching, mentoring, organizational leadership, or public advocacy.

David J. Goldberg, M.D., J.D.
Caroline and William Mark Memorial Award. Dr. Goldberg is an attorney and physician who has served on the board of directors of the American Academy of Dermatology, the American Society for Dermatologic Surgery, the International Society of Dermatologic Surgery and the American Society of Lasers in Medicine and Surgery. He currently serves as director or co-director of the annual S.C.C. meeting in Spain, the Aesthetic Extend Symposium in Florida and the New Frontiers in Cosmetic Medicine meeting in New Jersey. Dr. Goldberg is on the editorial boards of the Lasers in Surgery and Medicine and Dermatologic Surgery. He is the current senior chief-editor of the Journal of Cosmetic and Laser Therapy.

Kristen M. Kelly, M.D.
Leon Goldman Memorial Award. Dr. Kelly is a dermatologist and professor at the University of California, Irvine. She currently serves as the vice chair of dermatology and the dermatology residency program director at UC Irvine. Her research has helped to optimize cutaneous vascular lesion treatment, evaluate cutaneous angiogenesis, and develop and evaluate novel dermatologic light based imaging and therapeutic approaches.

Jill S. Waibel, M.D.
Eilert H. Drake Memorial Award. Dr. Waibel specializes in general dermatology, cutaneous laser surgery and cosmetic dermatology for adults and children. She is in private practice in Miami and Coral Gables, Florida. She is currently the medical director and owner of the Miami Dermatology and Laser Institute in Miami. She has successfully developed industry-leading procedures and techniques with lasers, received numerous awards for her contributions to medicine, and published numerous peer-reviewed journal articles and several textbook chapters. She was named “Person of the Week” on ABC World News Tonight in 2015, and was recently granted a Cutting Edge Research Grant by the American Society for Dermatologic Surgery. She has received numerous awards for her contributions to medicine, including an award given by Surgeon General Koop. The 2016 JDD Humanitarian Award has been given to Dr. Waibel for her innovative work in using lasers to treat patients with traumatic burn injuries.

John E. Hoopman, AAS, CMLSO
Excellence in Laser Nursing/Allied Health Award. John began his clinical experience at The University of Texas Southwestern Medical Center at Dallas in 1998. He is now the administrator of the UT program (now some 300+ lasers strong) including the disciplines of medical/surgical specialties including Cardio-Thoracic, Dermatology, Plastic Surgery, Ophthalmology, Obstetrics/Gynecology, Oral Surgery, Orthopedics, Otorhinolaryngology, Urology, General and Neurologic Surgery.

Zeev Zalevsky, Ph.D.
Dr. Horace Furumoto Innovations Professional Development - Young Investigator Award. Dr. Zeev is currently professor in engineering in Bar-Ilan University, Israel. His major fields of research are optical super resolution, biomedical optics, nanophotonics and electro-optical devices. Zeev has published more than 450 refereed journal papers, about 300 conference proceedings papers, has more than 50 issued patents, 6 authored books, 3 books as an editor and 30 book chapters. For his scientific activity Zeev has received many national and international prizes such as the Krill prize, the International Commission of Optics (ICO) prize and Abbé medal, the Juludan prize, among others.

G. David Baxter, MBA
Dr. Horace Furumoto Innovations Professional Development - Distinguished Contributor Award. Dr. Baxter is Professor at the University of Otago, and Director of New Zealand’s National Science Challenge for Ageing Well. He was recognized for his research achievements with award of the Chaffter Medal by the Otago Postgraduate Medical Society in 2017.

STUDY TO EXAMINE CHINESE BOTANICAL EFFICACY

KAMEDIS, a manufacturer of botanically based skincare products for chronic skin conditions, announced it has launched a double-blind, randomized, controlled study to examine the efficacy of traditional Chinese botanicals used in the company’s Kamedis Calm Eczema Therapy Cream. The product includes a patented combination of six herbal extracts, and previous studies have demonstrated a 50% reduction in eczema flare-ups in two weeks, according to the company.

This study will assess whether these results stem specifically from company’s formulation. Researchers will enroll 108 children and adults in six different U.S. locations. Patients will be randomly assigned to receive the product, the product without botanical extracts, or a competitive brand.

Outcomes will be measured by symptom relief on multiple scales, including the Investigator’s Global Assessment (IGA), Scoring Atopic Dermatitis (SCORAD) and Eczema Area Severity Index (EASI), plus quality of life and patient satisfaction, the company says.

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Improving continence

Expert addresses female health issues

WHITNEY J. PALMER | Staff Correspondent

After menopause a significant number of women face urinary complications and symptoms that negatively impact their quality of life. Adrian Gaspar, M.D., obstetrics/gynecologist specialist and cosmetogynecologist in Argentina, recently discussed this topic and the use of lasers to combat symptoms at the American Society of Laser Medicine & Surgery annual meeting. Dermatology Times spoke with Dr. Gaspar about how the laser works and why it’s beneficial to women living with these urinary symptoms.

Dr. Gaspar provided his insights here:

Q: What’s the importance of having a session like this overall?
A: Based on my experience with conferences, this concept of the well-being of women and menopause is becoming more important. Many years ago this topic wasn’t even considered for meetings. But, now, we’re living longer and have different treatments to improve sexual performance in men as they age. So we, as gynecologists, need to be concerned about how our patients will handle the aging process. How can we help our patients have a normal sex life if they have severe symptoms or recurrent symptoms of dryness, burning sensations, itching or incontinence. This is very important because all of it is related to well-being.

Q: What are the key points of your presentation?
A: Basically, the mechanism of continence has not been fully clarified yet. We know the urethral mucosa is essential to ensuring the urethra has a proper sealing capacity. After menopause, one in three women will have urinary symptoms. These are conditions related to a lack of estrogen. The majority of lasers that exist today target the vagina to improve vaginal dryness, and they work perfectly. But, the problem is that sometimes urinary symptoms can’t be completely solved through the use of vaginal lasers. We need to improve the urethra. About four years ago, I decided to start delivering energy inside the urethra with a special camera. We demonstrated, in two published studies in peer-reviewed journals, that urinary symptoms can be dramatically improved through the use of superficial warming processes on the urethra. So, we’re not treating incontinence. We’re improving continence. That’s totally different.

Remember that after menopause, according to the North American Menopause Society, 0.3 percent of patients will develop breast cancer. One percent of them will suffer a heart attack. But, 100 percent of patients will have genitourinary syndrome from menopause. Of that 100 percent, 50 percent will have symptoms in their lifetime, and one in three of that 50 percent will have urinary symptoms. They can be treated with estrogen and local creams and non-normal moisturizers. But, there are no complications with laser therapy because it’s light. It generates a warming process and generates vasodilation. After two session a year, you can have your patients free of urinary symptoms. It’s very important because it can be a walk-in walk-out procedure. It’s painless and only takes 12 minutes of your time. There are no contraindications that have been
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described because it’s just light. We haven’t had any complications. We are targeting the mechanism of continence by trying to make improvements the way estrogen does. When you use vaginal estrogen tablets, you are getting rid of vaginal dryness, itching, urgency, frequency, and incontinence. When you use lasers in the vagina and the urethra, you are improving the patients symptoms but without any hormones.

In the whole world, women have a valid concern about the use of hormones because of cancer. The longer we live now, the more patients will consult us for this condition. So, in the near future, I see us treating these symptoms with a combination of short-term estrogen to improve the water-retaining ability of the mucosa followed by lasers. Laser light loves water, so the more water there is in the mucosa, the longer lasting the effect of the laser.

We’re now working on a study with 80 patients to look at the combined treatment of estrogen and lasers. The outcomes, by far, are better than previous findings where we used only lasers. The urethral laser is like the vaginal laser. It’s a tool for the doctor to have in the wide array of possibilities to offer to the patient. It’s a new tool you can use to improve your patient’s quality of life.

**Q. When it comes to using laser with continence and incontinence, what are the pros and cons?**

**A:** As for pros, you can have benefits without any complications. A con would be that sometimes you may not meet your patient’s expectations if you don’t clearly explain what you can correct with a laser and what you cannot correct. You will not cure a patient from prolapse or stress urinary incontinence. But, you will improve their quality of life by diminishing the severity of the condition. Laser light is a temporary effect. It could be a year or a year and a half — it depends on the patient. You need to explain. Tell her she’ll need extra sessions over time to maintain the effect the same way a dermatologist would use a laser on the face for rejuvenation. It’s the same with hormones. If you take them for months and, then, abandon them, the condition you’re treating will return.

Sometimes when you have severe atrophy, you need to prepare the mucosa for the laser or it won’t be well tolerated. It’s the same for the urethral or the vaginal laser. In younger patients — age 50 to 55 with perimenopause — you won’t have this problem. But, an elderly patient around 80 years old who is suffering from recurrent urinary tract infections will need to have the mucosa prepared first. Otherwise, she might have some bleeding and discomfort.

**Q. For doctors who are new to this procedure, what mistakes might they make when implementing it?**

**A:** Although this procedure is quite simple, you need to be familiar with urethral and vaginal probes because you’re introducing a probe camera into a small cavity. You need to be very careful. The procedure is ambulatory, but you must know about fluency and laser-tissue interactions. The lasers come with parameters in the software, but sometimes they need to be decreased or sometimes you need to make fewer passes because the patient isn’t tolerating the process according to her hormonal state.

**Q. Have there been patients in your practice that you feel have been very successful and responded very well?**

**A:** I remember two cases. One woman, who is now 68-years-old, came to us for treatment after breast cancer. She was suffering from severe urinary symptoms and severe vaginal dryness. We gave her two sessions of combined vaginal and urethral lasers. She didn’t have intercourse, so her main complaint was itching and dysuria, frequency, and urinary urgency. She wouldn’t do any physical activity because she leaked urine. After two sessions, we improved her continence.

Another patient was 72 and was suffering from overactive bladder. She complained of urgency, incontinence, and frequency. She said that she needed to go to the restroom at least 15 times a day. After ruling out infections and taking an ultrasound of the bladder, the urethra, the abdomen, and the kidneys to rule out other possible problems, we decided to do laser treatment. She said that immediately after the first session, she had some minimal discomfort. But, after the second session, she said that she’d stopped taking the pills she used to control her bladder contractions. With this improvement with her continence, the problem had been solved. She’s happy now and can live a normal life according to the quality of life she used to have. She still leaks a minimal amount of urine, but she’s using the rest room no more than 5 to 6 times a day. This is very impressive for us.

**Q. Based on what you have seen, how large is the demand among patients for this type of procedure?**

**A:** I work in a huge urology clinic. We have at least 50 patients a day, and among them at least three or four patients would like to have one of these sessions. Even if they need surgery, we offer them the possibility of the non-surgical management of the condition. We can delay surgery. We can prepare the mucosa for surgery. Or, we can combine surgery with lasers to improve the urethra.

Until now, we have waited for our patients to exhibit symptoms before giving them any treatment. We’ve waited for bleeding, pain, and itching before prescribing estrogen. No gynecologist would wait until you had full osteoporosis before taking steps to try to improve your bone mass. And, now it’s that way with urinary symptoms. With this laser treatment, within one year, we can have patients totally free from suffering this part of the aging process.

“The majority of lasers that exist today target the vagina to improve vaginal dryness, and they work perfectly. But, the problem is that sometimes urinary symptoms can’t be completely solved through the use of vaginal lasers. So, we’re not treating incontinence. We’re improving continence. That’s totally different.”

Adrian Gaspar, M.D., obstetrics/gynecologist specialist and cosmetogynecologist in Argentina
Digital, in-person evaluations show agreement

ANDREW D. BOWSER | Staff Correspondent

Dermatologist evaluations of patient-taken acne vulgaris photos submitted via a teledermatology platform compare favorably with evaluations done in person, according to results of a study in *JAMA Dermatology.*

The intraclass correlation coefficients of in-person and photograph-based acne evaluations indicated “strong or excellent agreement across the board on the different acne assessment measures,” senior study author Vishal A. Patel, M.D., tells *Dermatology Times.*

These findings support the use of the platform for teledermatology and research, and may expand access to dermatology care, according to Dr. Patel. He is Medical Director of Dermatology for Science 37, Inc., the company developing the teledermatology platform.

“We feel very comfortable and confident that digital photos are equivalent to in-person evaluations,” he said.

“I think we can evaluate the patient in the same manner, whether it’s with a photograph or in person.”

**DIGITAL VS IN-PERSON**

The pilot validation study by Dr. Patel and colleagues included 69 consecutive patients (37 male, 32 female; mean age, 22.7 years) enrolled in a single general dermatology practice in Los Angeles, Calif., over a three-month period.

Patients were trained to use the Network Oriented Research Assistant (NORA) platform using the camera of the iPhone 6 to take pictures of their own facial acne vulgaris. Each patient took five photographs, including the forehead, chin, right and left cheek, and entire face.

Digital and in-person evaluations for each individual were performed by the same dermatologist. The second evaluation was done at least a week after the first in order to minimize changes that the dermatologist would recall scores of the initial evaluation, according to Dr. Patel.

The intraclass correlation coefficient (ICC) was 0.81 for total lesion count, and 0.75 for Investigator’s Global Assessment of acne severity, according to published results of the study.

Specific lesion counts also demonstrated agreement, with ICCs of 0.72, 0.72, and 0.82 for inflammatory lesions, noninflammatory lesions, and cysts, investigators reported.

These intrarater ICCs were similar to ICCs reported in other studies, according to Dr. Patel and colleagues. In a recent critical review of published acne severity measures, 33% of studies reporting interrater reliability had ICCs of 0.75 or greater, and 71% that reported intrarater reliability had ICCs of 0.80 or greater.

Analysis was based on the last 60 consecutive individuals, as the first 9 participants were used for prototyping the photography module and workflow, according to the report.

**VIRTUAL RESEARCH**

This study was conducted to support development of the NORA teledermatology platform as a research tool, Dr. Patel says.

Science 37, Inc., recently announced completion of a Phase 2b, randomized, placebo-controlled study for AOBiome that included screening more than 8,000 individuals with mild-to-moderate acne, of whom 372 were enrolled and participated “one hundred percent virtually” using the NORA platform.

The NORA platform is being evaluated for other dermatologic conditions, including pemphigus, vitiligo, and rosacea, Dr. Patel says, as well as other therapeutic areas including psychiatry, neurology, diabetes, liver disease, and cancer.

“Tech is only helping us, with iPhones becoming smarter, and some of them are even better than the human eye (in resolution),” Dr. Patel says. “It is really the future wave, so we’re trying to show that data in a scientific way as we go along.”

**Disclosures:** The study was supported by Science 37, Inc., developer of the NORA teledermatology platform. Dr. Patel reported stock options and employment with Science 37, Inc., and employment with Good Dermatology.

**References**


Immune modulators offer promising outcomes

LISETTE HILTON | Staff Correspondent

**Quick Takes**

Immune system modulators are changing the ways in which dermatologists treat inflammatory skin diseases. But how best to use these medications and for which skin diseases isn’t always clear.

“Immunomodulation is a very generic term. In some cases you want to dampen or turn inflammation off; in others, you want to turn it on,” says Adam Friedman, M.D., associate professor of dermatology and director of translational research at George Washington School of Medicine and Health Sciences.

“Our understanding of how the immune system works, for example, enables us to utilize and even develop therapies that target the specific biological dysfunction,” according to Dr. Friedman, who co-directed a session at the February 2018 American Academy of Dermatology (AAD) annual meeting.

The potential for using medications that impact the immune system are vast, with new injectables, orals and topicals continuously entering the market, he says.

**STARTING WITH CANCER**

Dermatologists and others are using immunotherapies to augment immune response to better attack skin cancers. The FDA is helping by fast tracking many of the approvals for immunotherapies for melanoma, as well as approving combinations of immunotherapies to target melanoma, according to Dr. Friedman.

The FDA’s approval of combination immunotherapies makes it easier to get treatment for advanced melanoma covered by insurance, he says.

Among the drug classes taking aim at melanoma: anti PD1 (programmed death 1) antibodies or inhibitors, of which there are two approved, and T cell stimulating agents such as ipilimumab (Yervoy), according to Dr. Friedman.

The lesson learned is that together or sequentially, these drugs work much better, he says.

Researchers also are utilizing immunomodulators for vitiligo and alopecia areata treatment. While these are clinically very different diseases, they’re actually quite similar from an immunology perspective, according to Dr. Friedman.

In this space, the focus is on janus kinase (JAK) inhibition, he says.

**OFF-LABEL USES FOR IMMUNOMODULATORS, BIOLOGICS**

There is considerable opportunity to use biologic agents to treat conditions that go beyond the FDA-approved indications, including for inflammatory dermatoses that may either be too rare to have received an indication, or as another option in certain conditions where numerous first-line treatments have failed, according to George Han, M.D., Ph.D., dermatology chair at Mount Sinai Beth Israel, who co-directed the AAD session.

“Our armamentarium of immunomodulatory agents is still in relative infancy, and we’re just at the tip of the iceberg with regards to the variety of conditions these medications can treat,” Dr. Han says. “Unfortunately, the FDA review process necessitates an investment and a certain number of patients with a disease process to test it on to obtain official clearance, which is often impractical for some of the conditions we regularly treat.”

These medications, despite the hurdles, can transform a patient’s quality of life, he says.

“For off-label use, there is always some amount of risk involved because there’s less data about using the medication for indications other than what’s approved. However, most of these patients that we’re thinking about using biologics off-label for, have already failed the first-line and other therapies,” Dr. Han says. “I think...”
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Otezla® (apremilast) significantly increased PASI-75 response (n = 562) at week 16 (primary endpoint) vs placebo (n = 282) (33% vs 5%; P < 0.0001) in ESTEEM 1.²

**ESTEEM® Study Design**
- Evaluated in 2 multicenter, double-blind, placebo-controlled trials of similar design. Patients with moderate to severe plaque psoriasis (N = 1257) were randomized 2:1 to Otezla 30 mg twice daily or placebo for 16 weeks after a 5-day titration¹
- Selected inclusion criteria: age ≥18 years, BSA ≥10%, sPGA ≥3, PASI ≥12, candidates for phototherapy or systemic therapy¹

**INDICATIONS**
Otezla® (apremilast) is indicated for the treatment of patients with moderate to severe plaque psoriasis who are candidates for phototherapy or systemic therapy.

Otezla is indicated for the treatment of adult patients with active psoriatic arthritis.

**IMPORTANT SAFETY INFORMATION**

**Contraindications**
- Otezla® (apremilast) is contraindicated in patients with a known hypersensitivity to apremilast or to any of the excipients in the formulation

**Warnings and Precautions**
- Diarrhea, Nausea and Vomiting: Cases of severe diarrhea, nausea, and vomiting have been reported with the use of Otezla. Most events occurred within the first few weeks of treatment. In some cases patients were hospitalized. Patients 65 years of age or older and patients taking medications that can lead to volume depletion or hypotension may be at a higher risk of complications from severe diarrhea, nausea, or vomiting. Monitor patients who are more susceptible to complications of diarrhea or vomiting; advise patients to contact their healthcare provider. Consider Otezla dose reduction or suspension if patients develop severe diarrhea, nausea, or vomiting.

- Depression: Treatment with Otezla is associated with an increase in depression. During clinical trials 1.3% (12/920) of patients reported depression, compared to 0.4% (2/506) on placebo. Suicidal behavior was observed in 0.1% (1/1308) of patients on Otezla, compared to 0.2% (1/506) on placebo. Carefully weigh the risks and benefits of treatment with Otezla for patients with a history of depression and/or suicidal thoughts/behavior, or in patients who develop such symptoms while on
Otezla. Patients, caregivers, and families should be advised of the need to be alert for the emergence or worsening of depression, suicidal thoughts or other mood changes, and they should contact their healthcare provider if such changes occur.

- **Weight Decrease**: Body weight loss of 5-10% occurred in 12% (96/784) of patients treated with Otezla and in 5% (19/382) of patients taking placebo. Monitor body weight regularly; evaluate unexplained or clinically significant weight loss, and consider discontinuation of Otezla.
- **Drug Interactions**: Apremilast exposure was decreased when Otezla was co-administered with rifampin, a strong CYP450 enzyme inducer; loss of Otezla efficacy may occur. Concomitant use of Otezla with CYP450 enzyme inducers (e.g., rifampin, phenobarbital, carbamazepine, phenytoin) is not recommended.

### Adverse Reactions

- **Adverse reactions reported in ≥5% of patients were** (Otezla%, placebo%): diarrhea (17, 6), nausea (17, 7), upper respiratory tract infection (9, 6), tension headache (8, 4), and headache (6, 4).

### Use in Specific Populations

- **Pregnancy and Nursing Mothers**: Otezla is Pregnancy Category C; it has not been studied in pregnant women. Use during pregnancy only if the potential benefit justifies the potential risk to the fetus. It is not known whether apremilast or its metabolites are present in human milk. Caution should be exercised when Otezla is administered to a nursing woman.
- **Renal Impairment**: Otezla dosage should be reduced in patients with severe renal impairment (creatinine clearance less than 30 mL/min); for details, see Dosage and Administration, Section 2, in the Full Prescribing Information.

### References


Please turn the page for Brief Summary of Full Prescribing Information.

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INDICATIONS AND USAGE
OTEZLA® (apremilast) is indicated for the treatment of patients with moderate to severe plaque psoriasis who are candidates for phototherapy or systemic therapy.

CONTRAINDICATIONS
OTEZLA is contraindicated in patients with a known hypersensitivity to apremilast or to any of the excipients in the formulation [see Adverse Reactions (6.1)].

WARNINGS AND PRECAUTIONS
Diarrhea, Nausea, and Vomiting: There have been postmarketing reports of severe diarrhea, nausea, and vomiting associated with the use of OTEZLA. Most events occurred within the first few weeks of treatment. In some cases patients were hospitalized. Patients 65 years of age or older and patients taking medications that can lead to volume depletion or hypotension may be at a higher risk of complications from severe diarrhea, nausea, or vomiting. Monitor patients who are more susceptible to complications of diarrhea or vomiting. Patients who reduced dosage or discontinued OTEZLA generally improved quickly. Consider OTEZLA dose reductions in patients who develop diarrhea, nausea, or vomiting.

Depression: Treatment with OTEZLA is associated with an increase in adverse reactions of depression. Before using OTEZLA in patients with a history of depression and/or suicidal thoughts or behavior prescribers should carefully weigh the risks and benefits of treatment with OTEZLA in such patients. Patients, their caregivers, and families should be advised of the need to be alert for the emergence or worsening of depression, suicidal thoughts or other mood changes, and if such changes occur to contact their healthcare provider. Prescribers should carefully evaluate the risks and benefits of continuing treatment with OTEZLA if such events occur. During the 0 to 16 week placebo-controlled period of the 3 controlled clinical trials, 1.3% (12/920) of patients treated with OTEZLA compared to none in placebo-treated patients (0/506). Depression was reported as serious in 0.1% (1/1308) of patients exposed to OTEZLA compared to none in placebo-treated patients (0/506). Instances of suicidal behavior have been observed in 0.1% (1/1308) of patients receiving OTEZLA, compared to 0.2% (2/506) in placebo-treated patients. In the clinical trials, one patient treated with OTEZLA attempted suicide and two patients died of suicide. During the 0 to 16 week placebo-controlled period of the 3 controlled clinical trials, weight decrease by 5% to 10% of body weight occurred in 2% (16/784) of patients treated with OTEZLA compared to none in placebo-treated patients (0/506). The use of OTEZLA may be associated with a higher risk of suicidal behavior or thoughts or serious adverse psychiatric reactions compared to placebo, including patients with a history of depression.

Drug Interactions: Co-administration of strong cytochrome P450 enzyme inducer, rifampin, resulted in a reduction of systemic exposure of apremilast, which may result in a loss of efficacy of OTEZLA. Therefore, the use of cytochrome P450 enzyme inducers (e.g., rifampin, phenobarbital, carbamazepine, phenytoin) with OTEZLA is not recommended [see Drug Interactions (7.1) and Clinical Pharmacology (12.3)].

ADVERSE REACTIONS
Clinical Trials Experience in Psoriasis: Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trial of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice. Diarrhea, nausea, and upper respiratory tract infection were the most commonly reported adverse reactions leading to discontinuation for patients taking OTEZLA were nausea (1.6%), diarrhea (1.0%), and headache (0.8%). The proportion of patients with psoriasis who discontinued treatment due to any adverse reaction was 6.1% for patients treated with OTEZLA 30 mg twice daily and 4.1% for placebo-treated patients.

Table 3: Adverse Reactions Reported in 2% of Patients on OTEZLA and With Greater Frequency Than in Patients on Placebo; up to Day 112 (Week 16)

<table>
<thead>
<tr>
<th>Preferred Term</th>
<th>Placebo (N=550)</th>
<th>OTEZLA 30 mg BID (N=920)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhea</td>
<td>32 (6)</td>
<td>160 (17)</td>
</tr>
<tr>
<td>Nausea</td>
<td>35 (7)</td>
<td>155 (17)</td>
</tr>
<tr>
<td>Upper respiratory tract infection</td>
<td>31 (6)</td>
<td>84 (9)</td>
</tr>
<tr>
<td>Tension headache</td>
<td>21 (4)</td>
<td>75 (8)</td>
</tr>
<tr>
<td>Headache</td>
<td>19 (4)</td>
<td>55 (6)</td>
</tr>
<tr>
<td>Abdominal pain*</td>
<td>11 (2)</td>
<td>39 (4)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>8 (2)</td>
<td>35 (4)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>9 (2)</td>
<td>29 (3)</td>
</tr>
<tr>
<td>Decrease appetite</td>
<td>5 (1)</td>
<td>26 (3)</td>
</tr>
<tr>
<td>Insomnia</td>
<td>4 (1)</td>
<td>21 (2)</td>
</tr>
<tr>
<td>Back pain</td>
<td>4 (1)</td>
<td>20 (2)</td>
</tr>
<tr>
<td>Migraine</td>
<td>5 (1)</td>
<td>19 (2)</td>
</tr>
<tr>
<td>Frequent bowel movements</td>
<td>1 (0)</td>
<td>17 (2)</td>
</tr>
<tr>
<td>Depression</td>
<td>2 (0)</td>
<td>12 (1)</td>
</tr>
<tr>
<td>Bronchitis</td>
<td>2 (0)</td>
<td>12 (1)</td>
</tr>
<tr>
<td>Tooth abscess</td>
<td>0 (0)</td>
<td>10 (1)</td>
</tr>
<tr>
<td>Falloscilitis</td>
<td>0 (0)</td>
<td>9 (1)</td>
</tr>
<tr>
<td>Sinus headache</td>
<td>0 (0)</td>
<td>9 (1)</td>
</tr>
</tbody>
</table>

*Two subjects treated with OTEZLA experienced serious adverse reaction of abdominal pain.

Severe worsening of psoriasis (rebound) occurred in 0.3% (4/1184) patients following discontinuation of treatment with OTEZLA (apremilast).

DRUG INTERACTIONS
Strong CYP 450 Inducers: Apremilast exposure is decreased when OTEZLA is co-administered with strong CYP450 inducers (such as rifampin) and may result in loss of efficacy [see Warnings and Precautions (5.4) and Clinical Pharmacology (12.3)].

USE IN SPECIFIC POPULATIONS
Pregnancy: Pregnancy Category C: OTEZLA should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Pregnancy Exposure Registry: There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to OTEZLA during pregnancy. Information about the registry can be obtained by calling 1-877-311-8972. Nursing Mothers: It is not known whether OTEZLA or its metabolites are present in human milk. Because many drugs are present in human milk, caution should be exercised when OTEZLA is administered to a nursing woman. Pediatric use: The safety and effectiveness of OTEZLA in pediatric patients less than 16 years of age have not been established. Geriatric use: Of the 1257 patients who enrolled in two placebo-controlled psoriasis trials (PSOR 1 and PSOR 2), a total of 108 psoriasis patients were 65 years of age and older, including 9 patients who were 75 years of age and older. No overall differences were observed in the efficacy and safety in elderly patients ≥65 years of age and younger adult patients <65 years of age in the clinical trials. Renal Impairment: Apremilast pharmacokinetics were characterized in subjects with mild, moderate, and severe renal impairment as defined by a creatinine clearance of 60-89, 30-59, and less than 30 mL per minute, respectively, by the Cockcroft–Gault equation. While no dose adjustment is needed in patients with mild or moderate renal impairment, the dose of OTEZLA should be reduced to 30 mg once daily in patients with severe renal impairment [see Dosage and Administration (2.2) and Clinical Pharmacology (12.3)].

Hepatic Impairment: Apremilast pharmacokinetics were characterized in patients with moderate (Child Pugh B) and severe (Child Pugh C) hepatic impairment. No dose adjustment is necessary in these patients.

OVERDOSAGE
In case of overdose, patients should seek immediate medical help. Patients should be managed by symptomatic and supportive care should there be an overdose.


Based on APRPI.006 OTZ_PxO_HCP_BSv.006 06_2017
Skin microbiome associated with environmental influence

WAYNE KUZNAR | Staff Correspondent

The skin microbiome is an important indicator of the prevalence and etiology of skin diseases in urban areas, according to Korean researchers who have found that fragile networks of microbes in megacities, may contribute to a higher incidence of skin disease.

“Given the higher incidence of skin diseases in more urbanized populations and its association with the skin microbiome, we questioned how the skin microbiome differed depending on the degree of urbanization,” wrote Woo Jun Sul, Ph.D., department of systems biotechnology, Chung-Ang University, Anseong, Korea, and co-investigators.

They found that skin microbiomes of 231 healthy subjects in five large cities in China varied mainly with environment and the socioeconomic status of the cities studied. Their work was published in the March 7 issue of Science Advances.

For the study, cutaneous microbiota were collected from 231 females 25 to 35 years old from the cities of Kunming (Yunnan), Xi’an (Shaanxi), and Hohhot (Neimenggu), and two megacities (each with a population of more than 10 million), namely, Beijing and Guangzhou. These cities have diverse climates and differing outdoor air quality. The subjects lived in their respective cities for at least five years.

Proteobacteria (34%), Actinobacteria (26%), Firmicutes (21%), and Bacteroidetes (16%) comprised more than 90% of the skin microbiomes. Greater interindividual variations were found within the skin microbiomes of non-megacities than those of megacities. In addition, there was a higher number of total observed operational taxonomic units (by cities) in non-megacities than others, which indicates that the skin microbiomes of non-megacities are composed of a more diverse pool of regional species. Microbial networks of non-megacities were also found to have more complex structures than those of megacities.

Reference

Quick TAKES
There is a higher incidence of skin disease in urban environments. Less diverse skin microbiomes contribute to the incidence of skin disease in urban environments.

BY THE NUMBERS
34% PROTEOBACTERIA
26% ACTINOBACTERIA
21% FIRMICUTES
16% BACTEROIDETES

Given the higher incidence of skin diseases in more urbanized populations and its association with the skin microbiome, we questioned how the skin microbiome differed depending on the degree of urbanization.”

Woo Jun Sul, Ph.D., Chung-Ang University, Anseong, Korea
New IL-23 inhibitor for psoriasis shows durable response

DERMATOLOGY TIMES STAFF

The U.S. Food and Drug Administration has approved tildrakizumab-asnm (Ilumya, Sun Pharma) for adults with moderate-to-severe plaque psoriasis (PsO) who are candidates for systemic therapy or phototherapy, according to a company announcement.

Tildrakizumab-asnm could be available in the United States by as early as this summer.

Like guselkumab (Tremfya, Janssen) and ustekinumab (Stelara, Janssen), tildrakizumab-asnm is an IL-23 inhibitor that has been shown to reduce inflammation in adult patients with PsO. It works by selectively binding to the p19 subunit of IL-23 where it inhibits the release of pro-inflammatory cytokines and chemokines.

Data from two randomized, double-blind, placebo-controlled phase 3 clinical trials of 926 patients showed that of 616 treated patients (310 received a placebo), a statistically significant number of patients from both studies met the primary endpoint of PASI 75 and the Physician’s Global Assessment (PGA) score of clear or minimal at 12 weeks after two treatments. The results were presented at the European Academy of Dermatology and Venereology (EADV) Congress last year and published in The Lancet.

Of patients in the first trial, reSURFACE 1, 74% achieved PASI 75 at week 28 after three doses.

“84% of patients who continued receiving Ilumya 100 mg maintained PASI 75 at week 64 compared to 22% of patients who were re-randomized to placebo. In addition, 69% of the patients receiving Ilumya 100 mg who had a PGA score of clear or minimal at week 28 maintained this response at week 64 compared to 14% of patients who were re-randomized to placebo,” Sun Pharma reported.

Researchers reported that in terms of serious adverse events, angioedema and urticaria were reported in some patients. Other adverse events included upper respiratory infections, injection site reactions and diarrhea. Adverse reactions that occurred at rates less than 1% but greater than 0.1% in the treatment group at a higher rate than in the placebo group, included dizziness and pain in extremities and urticaria.

Tildrakizumab-asnm is administered subcutaneously at 100 mg every 12 weeks, after the completion of initial doses at the first week and week four.

“As we move toward finding a cure for psoriasis, what we are looking for are high performance drugs that provide durable response in between treatments and that lend themselves to patient compliance — in this case 12 weeks. This lessens the need for multiple injections along the way,” said George Martin, M.D., in a statement issued by the National Psoriasis Foundation where he serves as a member of its medical board.

Reference


George Martin, M.D., National Psoriasis Foundation
ALL ABOARD ONEXTON GEL

Efficacy and tolerability matter when it comes to treating acne. In the pivotal trial, ONEXTON GEL was shown to treat both inflammatory and noninflammatory acne, and no patients discontinued due to an adverse event.¹²

INDICATION
ONEXTON (clindamycin phosphate and benzoyl peroxide) Gel, 1.2%/3.75% is indicated for the topical treatment of acne vulgaris in patients 12 years of age or older.

IMPORTANT SAFETY INFORMATION
- ONEXTON Gel is contraindicated in patients with a known hypersensitivity to clindamycin, benzoyl peroxide, any component of the formulation, or lincomycin.
- ONEXTON Gel is contraindicated in patients with a history of regionalenteritis, ulcerative colitis, or antibiotic-associated colitis.
- Diarrhea, bloody diarrhea, and colitis (including pseudomembranous colitis) have been reported with the use of topical and systemic clindamycin. ONEXTON Gel should be discontinued if significant diarrhea occurs.
- Orally and parenterally administered clindamycin has been associated with severe colitis, which may result in death.
- Anaphylaxis, as well as other allergic reactions leading to hospitalizations, has been reported in postmarketing use of products containing clindamycin/benzoyl peroxide. If a patient develops symptoms of an allergic reaction such as swelling and shortness of breath, they should be instructed to discontinue use and contact a physician immediately.
- The most common local adverse reactions experienced by patients in clinical trials were mild and moderate erythema, scaling, itching, burning and stinging.
- ONEXTON Gel should not be used in combination with erythromycin-containing products because of its clindamycin component.
- ONEXTON Gel should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. A decision should be made whether to use ONEXTON Gel while nursing, taking into account the importance of the drug to the mother.
- Patients should be advised to avoid contact with the eyes or mucous membranes.
- Patients should minimize exposure to natural and avoid artificial sunlight (tanning beds or UVA/B treatment) while using ONEXTON Gel. To minimize exposure to sunlight, protective clothing should be worn and a sunscreen with SPF 15 rating or higher should be used.

To report SUSPECTED ADVERSE REACTIONS, contact Ortho Dermatologics at 1-800-528-4576 or FDA at 1-800-FDA-1088 or visit www.fda.gov/medwatch.

Please see Brief Summary of Full Prescribing Information on the following page.


LEARN MORE AT ONEXTON.COM

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INSTANT SAVINGS FOR ELIGIBLE PATIENTS AT ORTHORXACCESS.COM
TERMS AND CONDITIONS APPLY
CONTRAINDICATIONS

Hypersensitivity
ONEXTON Gel is contraindicated in those individuals who have shown hypersensitivity to clindamycin, benzoyl peroxide, any components of the formulation, or lincomycin. Anaphylaxis, as well as allergic reactions leading to hospitalization, has been reported in postmarketing use with ONEXTON Gel [see Adverse Reactions]

WARNINGS AND PRECAUTIONS

Colitis
Systemic absorption of clindamycin has been demonstrated following topical use of clindamycin. Diarrhea, bloody diarrhea, and colitis (including pseudomembranous colitis) have been reported with the use of topical and systemic clindamycin. If significant diarrhea occurs, ONEXTON Gel should be discontinued.

Severe colitis has occurred following oral and parenteral administration of clindamycin with an onset of up to several weeks following cessation of therapy. Antiperistaltic agents such as opiates and diphenoxylate with atropine may prolong and/or worsen severe colitis.

Severe colitis may result in death.

Studies indicate toxin(s) produced by C. difficile is one primary cause of antibiotic-associated colitis. The toxin is usually characterized by severe persistent diarrhea and severe abdominal cramps and may be associated with the passage of blood and mucus. Stool cultures for C. difficile toxin may be helpful diagnostically.

Ultraviolet Light and Environmental Exposure
Minimize sun exposure (including use of tanning beds or sun lamps) following drug application [see Nonclinical Toxicology].

ADVERSE REACTIONS

The following adverse reaction is described in more detail in the Warnings and Precautions section of the label: Colitis [see Warnings and Precautions].

Clinical Trials Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in clinical trials of a drug cannot be directly compared to rates observed in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

These adverse reactions occurred in less than 0.5% of subjects treated with ONEXTON Gel:
- burning sensation (0.4%); contact dermatitis (0.4%); pruritus (0.4%); and rash (0.4%).
- During the clinical trial, subjects were assessed for local cutaneous signs and symptoms of erythema, scaling, itching, burning and stinging. Most local skin reactions either were the same as baseline or increased and peaked around week 4 and were near or improved from baseline levels by week 12. The percentage of subjects that had symptoms present before treatment (at baseline), during treatment, and the percent with symptoms present at week 12 are shown in Table 1.

Table 1: Local Skin Reactions - Percent of Subjects with Symptoms Present. Results from the Phase 3 Trial of ONEXTON Gel 1.2%/3.75% (N = 243)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Baseline</th>
<th>Treatment</th>
<th>End of Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Mod.*</td>
<td>Severe</td>
</tr>
<tr>
<td>Erythema</td>
<td>20</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>Scaling</td>
<td>10</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Itching</td>
<td>14</td>
<td>3 &lt;1</td>
<td>15</td>
</tr>
<tr>
<td>Burning</td>
<td>5 &lt;1</td>
<td>&lt;1</td>
<td>7</td>
</tr>
<tr>
<td>Stinging</td>
<td>5 &lt;1</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

*Mod. = Moderate

Postmarketing Experience
Because postmarketing adverse reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Anaphylaxis, as well as allergic reactions leading to hospitalization, has been reported in postmarketing use of products containing clindamycin phosphate/benzoyl peroxide.

DRUG INTERACTIONS

Erythromycin
Avoid using ONEXTON Gel in combination with topical or oral erythromycin-containing products due to its clindamycin component. In vivo studies have shown antagonism between erythromycin and clindamycin. The clinical significance of this in vitro antagonism is not known.

Concomitant Topical Medications
Concomitant topical acne therapy should be used with caution since a possible cumulative irritant effect may occur, especially with the use of peeling, desquamating, or abrasive agents. If irritancy or dermatitis occurs, reduce frequency of application or temporarily interrupt treatment and resume once the irritation subsides. Treatment should be discontinued if the irritation persists.

Neuromuscular Blocking Agents
Clindamycin has been shown to have neuromuscular blocking properties that may enhance the action of other neuromuscular blocking agents. ONEXTON Gel should be used with caution in patients receiving such agents.

USE IN SPECIFIC POPULATIONS

Pregnancy
Pregnancy Category C.

There are no adequate and well-controlled studies in pregnant women treated with ONEXTON Gel. ONEXTON Gel should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Animal reproductive developmental toxicity studies have not been conducted with ONEXTON Gel or benzoyl peroxide. Developmental toxicity studies of clindamycin performed in rats and mice using oral doses of up to 600 mg/kg/day (240 and 120 times amount of clindamycin in the highest recommended adult human dose based on mg/m², respectively) or subcutaneous doses of up to 200 mg/kg/day (80 and 40 times the amount of clindamycin in the highest recommended adult human dose based on mg/m², respectively) revealed no evidence of teratogenicity.

Nursing Mothers
It is not known whether clindamycin is excreted in human milk after topical application of ONEXTON Gel. However, orally and parenterally administered clindamycin has been reported to appear in breast milk. Because of the potential for serious adverse reactions in nursing infants, a decision should be made whether to use ONEXTON Gel while nursing, taking into account the importance of the drug to the mother.

Pediatric Use
Safety and effectiveness of ONEXTON Gel in pediatric patients under the age of 12 have not been evaluated.

Geriatric Use
Clinical trials of ONEXTON Gel did not include sufficient numbers of subjects aged 65 and older to determine whether they respond differently from younger subjects.

NONCLINICAL TOXICOLOGY

Carcinogenicity, Mutagenesis, Impairment of Fertility
Carcinogenicity, mutagenicity and impairment of fertility testing of ONEXTON Gel have not been performed.

Benzoyl peroxide has been shown to be a tumor promoter and progression agent in a number of animal studies. Benzoyl peroxide in acetone at doses of 5 and 10 mg administered topically twice per week for 20 weeks induced skin tumors in transgenic Tg.AC mice. The clinical significance of this is unknown.

Carcinogenicity studies have been conducted with a gel formulation containing 1% clindamycin and 5% benzoyl peroxide. In a 2-year dermal carcinogenicity study in mice, treatment with the gel formulation at doses of 800, 2700, and 15000 mg/kg/day (1.8, 5.4, and 30 times amount of clindamycin and 2.4, 7.2, and 40 times amount of benzoyl peroxide in the highest recommended adult human dose of 2.5 g ONEXTON Gel based on mg/m², respectively) did not cause any increase in tumors. However, topical treatment with a different gel formulation containing 1% clindamycin and 5% benzoyl peroxide at doses of 100, 500, and 2000 mg/kg/day caused a dose-dependent increase in the incidence of keratoacanthoma at the treated skin site of male rats in a 2-year dermal carcinogenicity study in rats. In an oral (gavage) carcinogenicity study in rats, treatment with the gel formulation at doses of 300, 900, and 3000 mg/kg/day (1.2, 3.6, and 12 times amount of clindamycin and 1.6, 4.8, and 16 times amount of benzoyl peroxide in the highest recommended adult human dose of 2.5 g ONEXTON Gel based on mg/m², respectively) for up to 97 weeks did not cause any increase in tumors. In a 52-week dermal photocarcinogenicity study in hairless mice, 40 weeks of treatment followed by 12 weeks of observation, the median time to onset of skin tumor formation decreased and the number of tumors per mouse increased relative to controls following chronic concurrent topical administration of the higher concentration benzoyl peroxide formulation (5000 and 10000 mg/kg/day, 5 days/week) and exposure to ultraviolet radiation.

Clindamycin phosphate was not genotoxic in the human lymphocyte chromosome aberration assay. Benzoyl peroxide has been found to cause DNA strand breaks in a variety of mammalian cell types, to be mutagenic in S. typhimurium tests by some but not all investigators, and to cause sister chromatid exchanges in Chinese hamster ovary cells.

Fertility studies have not been performed with ONEXTON Gel or benzoyl peroxide, but fertility and mating ability have been studied with clindamycin. Fertility studies in rats treated orally with up to 300 mg/kg/day of clindamycin (approximately 120 times the amount of clindamycin in the highest recommended adult human dose of 2.5 g ONEXTON Gel, based on mg/m²) revealed no effects on fertility or mating ability.

PATIENT COUNSELING INFORMATION
See FDA-approved patient labeling (Patient Information).

Manufactured for:
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By:
Valeant Pharmaceuticals International, Inc.
Laval, Quebec H7L 4A8, Canada
U.S. Patent 8,288,434

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Neurologic changes that stem from biologic therapy

LISETTE HILTON | Staff Correspondent

Biologic therapy-associated neurologic complications are rare but are an important consideration for dermatologists prescribing biologics to treat moderate-to-severe plaque psoriasis, according to a review published in January in the journal Cutis.

Physicians should be aware of the warning signs that a biologic agent could be to blame when patients experience subacute or rapidly progressive neurologic changes, the authors wrote.

Biologic medications have greatly improved quality of life and disease control for psoriasis patients, but neurologic side effects associated with biologic agents have long been a concern. This concern stems from some case reports linking TNF-alpha inhibitors with demyelinating diseases, and many recall when the biologic efalizumab was taken off the market in 2009 for causing fatal progressive multifocal leukoencephalopathy.

NEUROLOGICAL DEFICITS
Taking a strong history can offer clues about whether some biologics might be better than others for patients at risk of neurologic complications.

“If a patient has a history of any demyelinating disorder, then all TNF inhibitors should be avoided,” says review author Jashin J. Wu, M.D., director of dermatology research at Kaiser Permanente Los Angeles Medical Center. “It’s not fully known why, but it seems there may be less risk when using other classes of biologics, so these should be selected instead.”

Among the demyelinating disorders seen with biologic use: Optic neuritis, which is an inflammatory demyelinating of the optic nerve, has been observed in patients on etanercept (Enbrel, Amgen), infliximab (Remicade, Janssen) and adalimumab (Humira, AbbVie). Dermatologists and others may see early symptoms including periocular pain and unilateral loss of visual acuity.

Multiple sclerosis also has been seen with use of etanercept, adalimumab and infliximab. Etanercept has been associated, although the incidence is unknown, with transverse myelitis. Efalizumab, adalimumab, infliximab and etanercept have been linked to Guillain-Barre syndrome.

The authors recommend patients on biologic therapies — especially those on TNF-alpha inhibitors — be monitored for signs of demyelinating disorders, including new onset visual, motor or sensory changes, such as ataxia, paresthesias, muscle weakness, impaired vision, hearing and speech problems.

There are few case reports in which use of a TNF-alpha inhibitor is associated with progressive multifocal leukoencephalopathy, but most of those are in the presence of immune suppression, autoimmune disease and other confounding factors. Known cases of biologic-associated leukoencephalopathy are limited to rituximab and the no-longer-available efalizumab.

Though rare, it’s important for dermatologists to note that the type of leukoencephalopathy presents often with subacute, rapidly progressive, focal or multifocal motor, cognitive or visual deficits.

Ustekinumab (Stelara, Janssen) is rarely associated — two cases ever reported — with reversible posterior leukoencephalopathy syndrome, which can be reversed by controlling blood pressure and stopping use of the biologic agent. Reversible posterior leukoencephalopathy syndrome presents with headache, altered mental status, vision problems and seizures.

There is no data yet to suggest secukinumab (Cosentyx, Novartis) is associated with any neurologic side effects, according to the review.

PRACTICAL INSIGHTS
While review authors recommend that dermatologists educate psoriasis patients about neurologic and other risks of using biologic agents, Dr. Wu says he often elects not to address neurologic side effects, unless patients ask. Dr. Wu says while it’s important for dermatologists to be aware of the possibility of neurologic problems with biologic use, it’s not a concern that should prohibit prescribing in most cases.

Much remains unknown about the long-term neurologic effects of biologic therapy for plaque psoriasis, Dr. Wu says.

“Long-term registries will help further our understanding if there are any long-term neurologic risks,” he says.

Disclosures: Dr. Wu is an investigator for AbbVie Inc; Amgen Inc; Eli Lilly and Company; Janssen Biotech, Inc; Novartis; and Regeneron Pharmaceuticals, Inc.

Reference
that as long as the physician establishes a strong relationship with the patient, and underlines the risks of the medication (which are the same as if one were prescribing it on-label), along with the fact that it is being used off-label but with some evidence of success, the patient is usually on board.”

The challenge is the battle with insurance companies to get these medications covered for off-label use, he says.

“A strongly worded letter is often necessary to try to obtain coverage, along with evidence of success in other cases (i.e. literature references). Sometimes obtaining samples from the drug manufacturer is an option. The advice to avoid any problems is the same as the advice to avoid issues in any practice: document, document, document!” Dr. Han says.

Dermatologists should review the evidence in order to select rational off-label uses for biologics, according to Dr. Han.

CAMP, CANNABINOID CONNECTIONS

There’s strong interest in dermatology for developing drugs to inhibit phosphodiesterase 4 (PDE4), a protein that breaks down cyclic adenosine monophosphate, or cAMP. Two such medications are approved: apremilast (Otezla, Celgene), for psoriasis, and crisaborole (Eucrisa, Pfizer), for atopic dermatitis, according to Dr. Friedman.

“I think certainly blocking this protein and increasing cAMP in the cells, in inflammatory diseases like eczema and psoriasis, has a benefit. And PDE4/cAMP biology is certainly important to a lot of inflammatory and neoplastic diseases.”

But questions remain, even with drugs in the class that are already approved, about how to optimize treatment, he says.

Dr. Friedman, who addressed the potential of cannabinoids for the treatment of inflammatory and neoplastic skin diseases during the AAD session, says a lot of what researchers know today about the human endocannabinoid system is from studies on recreational drug use.

“We have two receptors in our bodies for cannabinoids: CB1r, which is heavily expressed in the central nervous system, and CB2R, which is expressed by numerous immune cells and organs,” he says. “It wasn’t for the interest in things like THC [tetrahydrocannabinol], which is the psychoactive cannabinoid component from the cannabis plant, we would never have learned that we have this inherent endocannabinoid system.”

Unlike the biological active molecule THC, which binds to CB1r, the molecule cannabinol (CBD) binds to CB2r, which is expressed by immune cells, the spleen and lymph nodes to name a few, and therefore has no binding affinity for the central nervous system. Researchers, according to Dr. Friedman, are looking at how to make synthetic and other cannabinoids more bioavailable or bind better to specific CB receptors.

“A great example is ajulemic acid, a synthetic cannabinoid made from THC but changed in a way that it predominately binds to CB2r and not CB1r. I think, of all the things out there, this is the furthest along in terms of treating complex medical dermatologic diseases. Corbus Pharmaceuticals has already executed several clinical trials in dermatomyositis and scleroderma using an oral form of ajulemic acid with very promising results,” he says.

There are a good number of basic science papers looking at the mechanism by which cannabinoids can have utility in treating non-melanoma and melanoma skin cancer and inflammatory skin diseases in major scientific journals, including the Journal of Clinical Investigation (JCI) and Journal of Investigative Dermatology, he says.

“For inflammatory diseases, there is some animal model data [cannabinoid treatment] for eczema. For acne, there’s one paper in the JCI using human sebocytes that highlights cannabinoid’s ability to inhibit sebum production and also key inflammatory signals such as IL-1b that are released from sebaceous glands which exposed to validated stimuli. There actually is nothing, short of oral retinoids, that can inhibit sebum production and inflammation, so there’s tremendous potential there,” Dr. Friedman says.

Dr. Friedman is conducting research on how to deliver topical cannabinoids, which are highly lipophilic and poorly penetrate the skin barrier.

“You need a unique way to deliver them in order to capitalize on all of the preclinical we have to day. That’s where my work in nanotechnology comes in, which is the development of materials at the nano (1 billionth) meter scale, also known as the scale of cellular biology,” he says. “To overcome some limitations with topical cannabinoids, we encapsulated an endocannabinoid called AEA, or anandamide, and studied it in a validated mouse model of cutaneous lupus. … In this model, we allowed the animals to develop skin disease and then treated it with a topical nanoparticle formulation. It worked, clearing the lesions; whereas, the untreated group got worse and worse.”

The research is early, but promising, Dr. Friedman says. “There is a lot of promise but a lot of controversy. If we allow the social and political hang-ups about the recreational use get in the way of really good science, it would be a shame.”

Disclosures: Dr. Friedman is an investigator with Aelian Therapeutics; a speaker and faculty member for Allergen; and advisor, speaker and educator for Amgen, Janssen Biotech and Regeneron; a speaker for Bayer; an advisor for La Roche-Posay Laboratoires Pharmaceutiques; and a consultant for Dermira, Eli Lilly and Company, Encore Dermatology, Exelixis, Galderma USA, IntraDerm Pharmaceuticals, Johnson and Johnson Consumer Products Company, OcuBiis Innovative Sciences, Pfizer and Sanowa Works. He is an advisor for Mendo Therapeutics and NewerC. He is a speaker for Orlando Dermatology, Aesthetic & Clinical; He is an advisor and speaker for Promis Pharma. He is an investigator for Valeant Pharmaceuticals International, and advisor for Valeant Pharmaceuticals North America. Dr. Friedman is co-inventor of the nanoparticle platform listed, which has been licensed to Zyle Therapeutics, a nanotechnology-based biopharmaceutical company.

Dr. Han is an investigator for Celgene and MC2 Therapeutics. He is a speaker for Pfizer, Regeneron Pharmaceuticals and Sanofi. And he is an investigator for Janssen and Eli Lilly.

References

FOD3 “Treating Tumors and Inflammatory Skin Diseases with Immunomodulators and Biologics.” American Academy of Dermatology 2018 annual meeting. Adam J. Friedman, George Han, Edward W. Cowan, et al. 9-11 a.m., Friday, February 16.
Clinical variations in PG
Study finds distinct comorbidities among younger and older patients

BOB KRONEMYER | Staff Correspondent

A n age-specific evaluation of patients with pyoderma gangrenosum (PG) may allow for the development of focused algorithms for prioritizing assessment based on age, according to a cohort study of 356 cases of PG in JAMA Dermatology.

The study found that while clinical features of the rare inflammatory skin condition were comparable between younger and older patients, associated medical comorbidities varied by age. For instance, there were higher rates of inflammatory bowel disease (IBD) in patients younger than 65, while patients 65 and older had higher rates of solid organ and hematologic malignant neoplasms, hematologic disorders, and inflammatory arthritis.

“Whenever we see rare entities, often our understanding is based on a single institution, sometimes even a single-provider, retrospective series,” says co-author Misha Rosenbach, M.D., an associate professor of dermatology and internal medicine at the Perelman School of Medicine at the University of Pennsylvania in Philadelphia.

The current study pooled data from two large tertiary care academic centers: University of Pennsylvania and Harvard Medical School.

“We gathered three times as many cases as the largest previous study,” Dr. Rosenbach tells Dermatology Times.

“This allowed us to confirm some previously held beliefs about systemic disease associations in general, and also to identify a clear split in the age-groups and their systemic disease associations.”

Overall, 66.3% of patients had associated medical comorbidities. “This is a larger number than previously reported,” Dr. Rosenbach says. “Perhaps this is because we are tertiary care referral centers, or perhaps because we do a more thorough workup looking for these entities.”

In addition, “perhaps not surprisingly, the older age group was more likely to have malignancies and hematological disorders than the younger group; although, importantly, some young patients did have cancer/hematologic abnormalities,” Dr. Rosenbach says.

Dr. Rosenbach points out that the high numbers of younger patients with PG-associated IBD — 47.7% versus 26.6% of older patients — “really strengthens the need for clinicians to carefully screen for IBD with directed questions, and have a very low threshold to refer patients for gastrointestinal (GI) evaluation.”

Neutrophilic dermatoses, including PG, Sweet’s syndrome (SS) and other entities, in general, are fairly understudied and poorly understood, according to Dr. Rosenbach director of inpatient dermatology at the University of Pennsylvania.

“Patients with these diagnoses often are quite uncomfortable, and there can be a long delay in diagnosis because it often requires an experienced medical dermatologist to recognize these entities,” he says. “We would really like to move the field forward and gain a better understanding for how and why these diseases occur: Why are they associated with different underlying systemic diseases? How do they impact patients? And how can we best treat them?”

Dr. Rosenbach says he and his colleagues are in the midst of some translational studies looking further into the etiopathogenesis of these disorders. “As part of that, we wanted to identify pure, proven cases of neutrophilic dermatoses to use,” he says. “In doing so, we carefully catalogued the cases we had at Penn and presented our findings at a national meeting.”

Collaborating with Arash Mostaghimi, M.D., and his Harvard group “really expanded the numbers, impact, and scope of the study,” Dr. Rosenbach says.

“We hope that our cooperative, multidisciplinary research like this will help expand our understanding of these types of rare diseases.”

However, in this era of cost-conscious care, “it is important not to perform every test on every patient, and to carefully consider the costs, pretest likelihood of a result, and how a test will impact medical decision-making,” Dr. Rosenbach says.

While traditionally IgA paraproteinemia has been reported as a rare association with PG, “our study makes it pretty clear that while paraproteins in general are more common as you age, in PG in particular those types of disorders truly are much more important to consider in older patients, and really should not be the first priority in younger patients. Age-stratified initial workup for PG should make things easier on clinicians and on the patients.”

Going forward, translational studies are needed “to demonstrate the key, critical cytokines involved in these diseases, validated diagnostic tools and severity-assessment scores, and then clinical trials using targeted therapies to mitigate the inflammation,” Dr. Rosenbach says.
This is a substantial step forward for confirming disease, provided it holds up in clinical practice.

Benjamin Kaffenberger, M.D., The Ohio State University

Because there are currently no uniformly accepted diagnostic criteria for PG, a Delphi consensus exercise comprised of 12 international expert physicians proposed and validated criteria for ulcerative PG in JAMA Dermatology.

However, the consensus statement yielded only one major criterion: biopsy of ulcer edge demonstrating neutrophilic infiltrate.

But there were eight minor criteria: exclusion of infection; pathergy; history of IBD or inflammatory arthritis; history of papule, pustule or vesicle ulcerating within four days of appearing; peripheral erythema, undermining border and tenderness at ulceration site; multiple ulcerations, with at least one on an anterior lower leg; cribri-form or “wrinkled paper” scar(s) at healed ulcer sites; and decreased ulcer size within one month with at least one on an anterior lower leg; cribri-form or “wrinkled paper” scar(s) at healed ulcer sites; and decreased ulcer size within one month of initiating immunosuppressive medication(s).

Approved diagnostic criteria were tested and validated using 113 case reports (65 pertaining to PG and 48 related to PG mimickers).

“Receiver operating characteristic analysis revealed that four of eight minor criteria maximized discrimination, yielding sensitivity and specificity of 86% and 90%, respectively,” wrote the authors, led by Emanuel Maverakis, M.D., of the Department of Dermatology at the University of California, Davis.

The authors hope that the combined major and minor criteria might serve as a guideline for clinicians, resulting in fewer misdiagnoses and better patient selection for clinical trials.

The authors also note that the proposed diagnostic criteria will no longer be a diagnosis based on exclusion. But the consensus statement acknowledges that atypical ulcerative PG cases may be missed, especially when the biopsy was obtained after starting immunosuppressive therapy or during spontaneous resolution.

In his editorial about the two papers in JAMA Dermatology, Benjamin Kaffenberger, M.D., an assistant professor of dermatology at The Ohio State University, said the Rosenbach/Mostaghimi study is the largest cohort of PG patients to date and supports that an underlying disease like Crohn’s, ulcerative colitis, cancer and blood disorders “can be detected in greater than the conventionally cited 50% of patients. The study also shows that younger patients are far more likely to have IBD, whereas cancer is much more likely in the elderly.”

On the other hand, the Delphi consensus paper presents a new method for confirming the diagnosis of PG.

“This is a substantial step forward for confirming disease, provided it holds up in clinical practice,” Dr. Kaffenberger, director of Inpatient Consult Service at the university, tells Dermatology Times. “The paper used case reports, which typically represent either the most classic of diseases or most severe/extreme cases to validate the criteria. We just need to be certain that the method for confirmation performs just as well in clinical practices. I would be hesitant to use it without another validation step.”

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By WAYNE KUZNAR

DEMENTIA, EPILEPSY, AND PARKINSON’S DISEASE are twice as common in patients with pemphigus than in matched controls, Israeli investigators have discovered.

The association is consistent with case reports that suggest coexistence of pemphigus with some specific neurologic conditions. They report their findings in JAMA Dermatology.

The association between pemphigus and neurologic disease was found in a retrospective population-based cross-sectional study using the database of the largest public health care organization in Israel. Between Jan. 1, 2004 and Dec. 31, 2014, a total of 1,985 patients with a new diagnosis of pemphigus and 9,874 controls matched for age, sex, and ethnicity were compared for the proportion with diagnoses of dementia, epilepsy, Parkinson’s disease, and multiple sclerosis (MS).

Of the 1,985 cases with pemphigus, 622 patients (31.3%) had dementia, 74 (3.7%) had epilepsy. 175 (8.8%) had Parkinson’s disease, and two (0.1%) had MS. Among the control cohort, 1,856 (3.7%) had epilepsy, 175 (8.8%) had Parkinson’s disease, and six (0.1%) had MS.

The odds of dementia (OR 1.97), epilepsy (OR 1.78), and Parkinson’s disease (OR 2.09) were all significantly higher among patients with pemphigus compared with controls, which remained significant after adjusting for comorbidity.

The patients with pemphigus also had higher rates of healthcare use. “Physicians who care for patients with pemphigus should be aware of this association,” the authors wrote. “Further observational research is necessary to examine the temporality of this association and explore the existence of causality.”

An editorial by Dennis Linder, M.D., from the University of Oslo, Norway, and colleagues, appearing in the same issue of JAMA Dermatology, calls for additional exploratory of local central nervous system alterations in autoimmune skin diseases. The association between pemphigus and neurologic comorbidities offers further support of immunologic cross-reactivity between the skin and brain. They noted that “at least 13 different antigens residing in the central or peripheral nervous system and in the skin or kidneys have now been shown to be targeted by IgG4, including the desmogleins targeted by pemphigus autoantibodies.”

Reference


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**Dermoscopy features**

Differentiate melanoma in situ from benign lesions

WAYNE KUZNAR | Staff Correspondent

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**Quick Takes**

Study finds five indicators of melanoma in situ.

Investigators assessed accuracy of known diagnostic criteria.

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Irrregular hyperpigmented areas may be the most potent dermoscopic indicator of melanoma in situ (MIS), even when compared with atypical nevi. This feature is one of five indicators of MIS found in a multicenter study of patients with histopathologically diagnosed MIS or other skin tumors. The study appears in *JAMA Dermatology*.

Investigators led by Aimilios Lallas, Ph.D., from Aristotle University in Greece, assessed the accuracy of known melanoma criteria to diagnose MIS compared with benign pigmented lesions in 1,285 index lesions from 1,285 patients.

The five significant dermoscopic indicators of MIS versus other skin tumors were: atypical network, regression of more than 50%, irregular hyperpigmented areas, angulated lines, and prominent skin markings.

Of these, irregular hyperpigmented areas represented the strongest indicator, with a 5.4-fold probability of MIS when present.

“Their shape is irregular and does not fit with any known geometric shape (eg, triangle, line, square); therefore, they cannot be classified as any other previously known feature (eg, dots, globules, blotches, lines),” the investigators wrote. Irregular hyperpigmented areas are typically smaller, multiple, and “bizarrely outlined” compared with blotch.

When compared with excised nevi, irregular hyperpigmented areas increased the probability of MIS by 4.3-fold and prominent skin marking by 2.7-fold.

“These findings might enhance the ability of clinicians to improve their accuracy in recognizing melanoma at the earliest possible stage, lowering the risk of diagnostic delays and the subsequent burden for the patients, clinicians, and health systems,” the authors concluded.

In an editorial published with the study, Nufer et al. wrote that MIS increases the risk of invasive melanoma and several other cancers, but its identification and diagnosis are challenging.

The dermoscopic criteria discovered by Lallas and colleagues overcome some of the challenges in early identification but may also lead to detection of clinically indolent lesions and the harms of over diagnosis, they believe.

They support incorporating the dermoscopic criteria into screening programs that address those who would benefit the most, such as those with multiple nevi and a personal or family history of melanoma, they wrote.

“It is not feasible from a patient or practical perspective to excise every nevus, so accurate noninvasive diagnostic tools are needed.”

They advocate for studies similar to the one by Lallas et al. “to refine and simplify dermoscopic criteria and promote its clinical utility for early melanoma detection.”

Dermoscopy is one tool, but an essential one, in the battle against melanoma, they argue, with others being risk assessment tools, genetic profiling, total body photography.

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**5 Significant Dermoscopic Indicators of MIS**

- a typical network
- regression of more than 50%
- irregular hyperpigmented areas
- angulated lines
- prominent skin markings

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Inhibitors found to benefit surgically resectable melanoma

BOB KRONEMYER | Staff Correspondent

Neadjuvant targeted therapy with the BRAF and MEK inhibitors dabrafenib and trametinib prior to surgery significantly improved event-free survival in patients with high-risk, surgically resectable, clinical stage III and IV melanoma compared to standard-of-care surgery alone, researchers report in The Lancet Oncology.

“Although the trial finished early, limiting generalisability of the results, the findings provide proof-of-concept and support the rationale for further investigation of neoadjuvant approaches in this disease,” researchers wrote.

Led by Rodabe Amaria, M.D., of MD Anderson Cancer Center in Houston, this was a single-center, open-label, randomized phase two trial of seven patients to standard of care/consideration for adjuvant therapy and 14 patients to neoadjuvant plus adjuvant dabrafenib and trametinib.

The inhibitor group received eight weeks of neoadjuvant oral dabrafenib (150 mg twice per day) and oral trametinib (2 mg per day) before surgery. Then starting one week after surgery, these patients were administered up to 44 weeks of adjuvant dabrafenib plus trametinib, for a total of 52 weeks of treatment.

Patients were stratified by disease stage. The primary endpoint was investigator-assessed, event-free survival: Patients who were alive without disease progression at 12 months in the intent-to-treat population.

After a median follow-up of 18.6 months, 71% of patients who received the inhibitors were alive without disease progression versus 0% in the standard of care group. The median event-free survival was 19.7 months.

The inhibitors were well-tolerated. There was no occurrence of grade 4 adverse events or treatment-related deaths.

The most common adverse events in the group were expected grade 1–2 toxicities, including chills (92%), headache (92%) and pyrexia (77%), whereas the most common grade 3 adverse event was diarrhea (15%).

Study participants were adults with histologically or cytologically confirmed surgically resectable clinical stage III or oligometastatic stage IV BRAFV600E- or BRAFV600K-mutated melanoma.

In addition, eligible patients needed an Eastern Cooperative Oncology Group performance status of 0 or 1, a life expectancy of at least three years and no previous exposure to BRAF or MEK inhibitors.

Reference:

SKIN ASSESSMENT KEY TO IDENTIFYING INTERNAL MALIGNANCY

By BOB KRONEMYER

BECAUSE SKIN METASTASIS is usually asymptomatic, conducting thorough skin assessments is critical for timely diagnosis of internal malignancy.

In fact, “skin metastasis may be the first sign of internal malignancy,” writes Mellisa Hall, DNP, AGPCNP-BC, chair of the master of science in nursing program at the University of Southern Indiana in Evansville, in The Journal for Nurse Practitioners.

Criteria to identify the primary malignancy site are the location of the skin change and the patient’s age and gender.

New single or multiple skin lesions will likely rapidly change, with changes often firm, mobile and rubbery in texture, akin to benign skin lesions.

Red is the most common color of lesions. The incidence of cutaneous metastasis has also been reported in up to 9% of patients with metastatic cancer.

For women with breast cancer, the skin change is limited to one breast. These women may present with erythematous changes comparable to cellulitis or with prominent telangiectatic blood vessels. Others may have a dry, scaly, orange peel-like appearance.

For men with lung cancer, on the other hand, are frequently found on the anterior/posterior chest and the abdomen.

For all cancers, including colon, stomach, pancreas and pelvis, a full-body skin assessment entails a fundoscopic exam for pigment changes of the retina, nails, interdigital skin between toes, vaginal tissue and anal regions.

Skin assessments should also include inspection of surgical scars from previously removed malignancies.

Hall notes that the changing skin of acanthosis nigricans, seborrheic keratoses, erythrodema, pemphigoid and vasculitis “can be associated with internal malignancies, and may appear years before diagnosis of the primary malignancy.”

Documentation of skin findings should include the location, color and size of the lesion and any distribution pattern for multiple lesions.

In addition, sufficient lighting is needed to detect subtle changes in vascularity or scabbing. Palpating the lesion for tenderness or induration is also important because induration is linked to malignancy, especially on the scalp.

Finally, the probability of melanoma recurrence is possible with an immune complex assay that has 70% sensitivity and 85% specificity.

Reference:
Evolving treatment for advanced melanoma creates more questions

ROXANNE NELSON | Staff Correspondent

Over the past five years, a number of new pharmacologic treatments for advanced melanoma have been introduced, including immunotherapy, targeted agents (BRAF and MEK inhibitors), and oncolytic viral therapy. Novel combination strategies are also being implemented and investigated.

In 2010, however, the treatment landscape looked very different from how it does today, explained April K. Salama, M.D., of the Duke Cancer Institute in Durham, North Carolina, during the National Comprehensive Cancer Network (NCCN) Annual Conference, held March 22-24 in Orlando, Florida. At that time, patients with metastatic melanoma with good performance status could enter a clinical trial or receive high-dose interleukin-2 and chemotherapy. If the patient had poor performance status, then supportive care and/or referral to hospice was usually offered.

“But there has been a dramatic change since then, and a rapid evolution of therapy for melanoma,” Dr. Salama said.

To understand options for second-line therapy, Dr. Salama explained that it is important to understand the ways in which first-line treatment has evolved over the years. In terms of the NCCN guidelines, there is general consensus that for patients whose melanomas do not have an activating mutation in BRAF, the frontline regimen should contain a programmed death 1 (PD-1) inhibitor.

The second group of patients are those with BRAF mutations.

“We now know that over half of patients have melanomas that harbor a BRAF mutation, and we now have highly selective BRAF as well as MEK inhibitors,” she said. “Combination studies have shown improved outcomes in patients.”

A phase 3 trial published last year showed that dabrafenib combined with trametinib in patients with metastatic disease was superior to dabrafenib alone, in terms of progression-free survival (22% vs 12% at 3 years; hazard ratio [HR], 0.71) and overall survival (44% vs 32% at three years; HR, 0.75).

“Dabrafenib plus trametinib VS dabrafenib alone

Progression-free survival at 3 years, Hazard ratio at 0.71

22% vs. 12%

Overall survival at 3 years, Hazard ratio at 0.75

44% vs. 32%

“This really established the combination therapy with a BRAF inhibitor as the standard, as opposed to single-agent therapy in patients who are candidates for these options,” said Dr. Salama. “An even more recent development, which I think is important to consider, are the new findings in adjuvant therapy.”

Previous options in adjuvant therapy were “controversial, to say the least,” she noted, since they were limited by efficacy and concerns about toxicity. A recent study, she said, looked at adjuvant nivolumab vs ipilimumab in patients with resected stage III or IV melanoma. At a very early follow-up, nivolumab treatment resulted in a statistically significant 12-month relapse-free survival rate compared with ipilimumab. Nivolumab also had a better toxicity profile.

Also in the adjuvant setting, BRAF-mutated patients treated with dabrafenib plus trametinib for one year after surgery had superior overall survival, compared with patients in the placebo group.

In the setting of second-line therapy, Dr. Salama discussed second-line therapy.

“Second-Line continues on page 52.”

April K. Salama, M.D., Duke Cancer Institute in Durham, North Carolina
New oncology care model unfolds from CMS

ROXANNE NELSON | Staff Correspondent

The Center for Medicare and Medicaid Innovation (the Innovation Center) was established within the Centers for Medicare & Medicaid Services (CMS) to test innovative payment techniques and service delivery models.

In a keynote address during the National Comprehensive Cancer Network (NCCN) Annual Conference, held March 22–24 in Orlando, Florida, Ron Kline, M.D., FAAP, medical officer in the patient care models group at the Innovation Center, discussed the pilot Oncology Care Model (OCM), which he directs.

In highlighting the growing economic burden of cancer care, he said a significant proportion of patients are over age 65 and are Medicare beneficiaries. According to the National Institutes of Health, medical expenditures for cancer in the year 2020 are projected to reach at least $158 billion, a 27% increase from 2010.

“Care is fragmented and it’s not always high value,” Dr. Kline said, who also remains a practicing pediatric oncologist.

The OCM is a five-year model that was initiated in 2016 and will end in 2021, and the hope is that it will promote both high quality and high value care.

Dr. Kline briefly outlined the main points of the program. It is episode-based, meaning that the payment model targets chemotherapy and related care during a six-month period that begins with receipt of chemotherapy treatment.

The OCM also puts an emphasis on practice transformation. Physician practices are required to implement “practice redesign activities” to improve the quality of care that they deliver to patients. There are also multipayer models that include Medicare fee-for-service and other payers working in tandem to leverage the opportunity to transform care for oncology patients across a population of practices.

Physician practices that want to participate must adhere to certain stipulations, such as providing 24/7 access to a clinician that has access to the patient’s medical records, using electronic health records, documentation and use of the Institute of Medicine’s Care Management Plan, and administering treatment that is consistent with clinical guidelines.

There have been challenges in implementing the OCM, and a lot of lessons learned, he pointed out. “We have had issues estimating out-of-pocket costs, and we are trying to make that better,” said Dr. Kline. He also noted that there have been technology issues which “we are fixing.”

They have also worked on methodology, such as differentiating between high- and low-risk cancers, and “we have learned the difference between bladder and prostate cancer—that was brought up to us and we fixed it,” Kline noted. “We learned about Z51 as a billable code that people use and we fixed that.”

Dr. Kline emphasized that he is listening to physicians, and that they are learning as the program unfolds.

“We are trying to improve care for cancer patients,” he said.

Despite the challenges of implementing OCM, he explained that the preliminary results, which he was presenting from the first reporting period, show that progress has been made. To date, 25% of Medicare fee-for-service chemotherapy-related cancer care, in a total of 187 practices for 150,000 unique beneficiaries each year (representing approximately 200,000 episodes of care), is now being administered under OCM. There are also 14 commercial payers currently participating in the model.

Another part of the OCM is performance-based payment, which pays for enhanced services for patients that are combined with the usual Medicare payments. There is also the potential for a retrospective performance-based payment that is based on quality and savings. Kline explained that these payments are based on the ability of a practice to achieve quality measures and on reductions in Medicare expenditures below a target price. The payments are given as a semiannual bonus.

Dr. Kline noted that “one of the nice things we hear from practices is that they say ‘we are providing the care we always wanted to provide, we are not doing fee-for-service. We’re taking care of our patients and that’s where we want to be.’”

“The practices tell us that they are improving care coordination, symptom management, palliative care, and end-of-life care,” he added. They are also “addressing financial toxicity and improving communication with patients and other providers.”
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Lasers might allow the topical treatment of skin cancers with chemotherapy combinations that are currently given systemically, researchers say. “The biggest advantage would be reducing side effects when you go from systemic to topical treatment,” said Merete Haedersdal, M.D., Ph.D., a dermatology professor at the University of Copenhagen, Denmark.

Experiments in pigs have proven that creating arrays of holes with ablative fractional lasers can significantly accelerate topical uptake of drugs normally used systemically to treat squamous and basal cell carcinomas. If successful in humans, the technique would mark a new chapter in the evolution of a laser technique that has already scored remarkable successes in other skin conditions, said Dr. Haedersdal, who has devoted the past 10 years to exploring its potential. “The technique is taking off all over the world,” she said.

Experiments in pigs have proven that creating arrays of holes with ablative fractional lasers can significantly accelerate topical uptake of drugs normally used systemically to treat squamous and basal cell carcinomas.

If successful in humans, the technique would mark a new chapter in the evolution of a laser technique that has already scored remarkable successes in other skin conditions, said Dr. Haedersdal, who has devoted the past 10 years to exploring its potential. “The technique is taking off all over the world,” she said. It has been tested in clinical trials on neoplastic lesions, photodamaged skin, scars, onychomycosis, alopecia and topical anesthetics, with the best evidence for actinic keratoses.

Fractional laser-assisted drug delivery most commonly uses erbium-doped yttrium-aluminum-garnet or carbon dioxide lasers operating at infrared wavelengths, with water as the target chromophore. Evaporating tissue, the lasers leave a matrix of vertical channels surrounded by a rim of coagulated tissue. The channels penetrate the stratum corneum, providing direct access to viable skin.

The patient experiences little discomfort, though topical anesthetics are sometimes used, she said. “What we have been working on is establishing laser parameters, what kind of drugs can get in, these drug interactions and basic understandings,” she said. The researchers are learning to vary their technique depending on the drug they want to deliver. Smaller molecules are absorbed more easily than bigger ones. Hydrophilic drugs are absorbed more easily than lipophilic drugs.

“We do know that not many holes are required — about 5% density. It’s very subtle. If you crank up the laser you have the risk of systemic absorption. We want to keep it in the skin,” Dr. Haedersdal said.

The technique has shown good success in treating actinic keratoses that are difficult to treat surgically because they cover large areas. The laser treatment enhances the uptake of a photosensitizer used as part of photodynamic therapy. “Before they might need two to five treatments, now with one to two treatments they achieve the same outcomes,” she said.

ATROPHIC AND HYPERTROPHIC SCARS

For atrophic and hypertrophic scars, the lasers enhance the uptake of corticosteroids or 5-fluorouracil. Now the researchers are hoping to apply the technique to cancer. “The paradigm shift is to move treatments from systemic to topical treatments,” she said.

The researchers have focused on non-melanoma skin cancers because they are so common, with 5.4 million cases in the United States alone. Surgical resection or destruction can cause scars and disfigurement and may not fully remove tumors. Topical treatments have been limited by the poor penetration of the drugs into the skin. Already Dr. Haedersdal and her colleagues have achieved some success in a clinical trial treating basal cell carcinoma with photodynamic therapy.

“We are much encouraged that we can develop a paradigm shift in dermo-oncology.”

Merete Haedersdal, M.D., Ph.D., University of Copenhagen, Denmark
TOPICAL 5% 5-FU
In work led by Emily Wenande, M.D., of Harvard Medical School in Boston, they are planning a trial using cisplatin and 5-fluorouracil (5-FU). “If you combine the two drugs, it has a synergistic response in cell turnover,” she said. The drug combination is currently used systemically to treat malignancies, including head and neck squamous cell carcinoma.

Topical 5% 5-FU is approved for superficial basal cell carcinoma but does not adequately clear deep lesions. Cisplatin’s cutaneous uptake is so poor that it is currently limited to systemic therapy for metastatic nonmelanoma skin cancers.

To test the approach in the skin of live pigs, the researchers used a CO2 laser (10,600 nm) to generate channels in test sites, 2 x 2 cm. They applied customized wells made from wound dressings to these test sites and to other test sites on the pigs that were not treated by laser.

The test sites each received one of nine interventions: cisplatin on intact skin, laser followed by cisplatin solution (30 or 60 minutes exposure), laser followed by cisplatin (30 or 60 minutes) and 5-FU cream for five days, 5-FU on intact skin, laser followed by 5-FU for five days, laser alone, and no treatment.

In the intact skin, the cisplatin remained mostly on the superficial skin layer. It reached peak concentrations between two and five hours of 20.03 μg/cm3 at 500 μm depth and 5.09 μg/cm3 at 1500 μm depth. In the laser-treated skin cisplatin reached peak concentrations of 75.72 μg/cm3 at 500 μm depth and 29.30 μg/cm3 at 1500 μm depth. The differences were statistically significant (P < 0.005).

And the cisplatin concentrations in the laser-treated skin remained higher than in the intact skin, culminating in 16-26-fold greater deep deposition at 120 hours.

In the intact skin, no 5-FU was detected in the 1500 μm layer until 120 hours. At that point, it reached 17.67 μg/cm3. By contrast, in the laser treated skin, 5-FU concentration reached 318.74 μg/cm3 at 1500 μm depth after only 1 hour.

Between 48 and 120 hours, the laser’s effects on the uptake of 5-FU had waned, such that there was no difference between the intact and laser-treated skin at 1500 μm. And at the more superficial layer, 5-FU concentrations were higher in the intact skin at 120 hours.

The researchers did not detect either drug in systemic circulation. And they did not find any difference in local skin reactions among the test sites, with negligible erythema and edema.

The skin treated with laser and either of the drugs showed more signs of inflammation, cellular apoptosis and, for 5-FU, necrosis of the epidermis. The increased apoptosis and immune cell infiltration, and reduced epidermal proliferation, was particularly marked in skin treated with both drugs after the laser. This suggested a synergistic, or at least additive, effect of the two drugs.

“We are much encouraged that we can develop a paradigm shift in dermo-oncology,” said Dr. Haedersdal. She and her colleagues expect to begin a clinical trial by early summer. They are planning to use optical coherence tomography and confocal microscopy to measure the effects on tumors.

The approach could work with melanoma as well, but would require different drugs, she said.

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SCC skin depth correlates to lesion length

LISETTE HILTON | Staff Correspondent

The depth of follicular extension of atypical squamocytes in actinic keratoses correlates directly with the depth of invasion of an associated invasive squamous cell carcinoma, according to a recently published study in the "Journal of the European Academy of Dermatology and Venereology."

This finding, the authors write, has direct implications for clinical treatment and offers an explanation of why some actinic keratoses recur and progress following superficial destructive treatments, like cryotherapy.

Researchers based in Spain and the United States retrospectively performed a histologic review of 193 invasive squamous cell carcinoma biopsy specimens, which had associated actinic keratoses, and studied the existence and depth of follicular extension of atypical keratinocytes in actinic keratoses.

More than a quarter of cases had follicular extension, which often extended into the lower follicular segment. In 58% of those cases, the invasive squamous cell carcinoma was directly adjacent to the follicular basalis and correlated strongly with follicular extension depth. The correlation exists regardless of the pathway of origin, they conclude.

Invasive squamous cell carcinomas arising from the follicular basalis had a median tumor thickness of 1.75 mm, compared to 0.9 mm for those skin cancers developing in the epidermis.

"It is therefore important to note the presence and the depth of follicular extension when diagnosing actinic keratoses, since follicular extension likely accounts for a significant proportion of recurrent actinic keratoses and the development of invasive squamous cell carcinoma following superficial treatment modalities," they write.

Invasive squamous cell carcinoma of the skin usually starts as an actinic keratosis, but most actinic keratoses spare the follicular and adnexal epithelium, as they are confined to the interfollicular epidermis, according to the study.

Still, there are cases in which actinic keratoses have atypical squamocyte extensions down follicular and adnexal epithelium, which could be the precursor of many squamous cell carcinomas, the authors write. Researchers focusing on follicular involvement in invasive squamous cell carcinoma have reported, among other things, that "follicular" invasive squamous cell carcinoma selectively develops in the wall of the hair follicle, although this finding is not always in the setting of actinic keratosis.

The strong suggestion that deeply invasive squamous cell carcinoma often develops from the follicular basalis and direct implications for treatment.

"If the histopathological assessment carefully notes the presence and the depth of follicular extension of an actinic keratosis, then more aggressive treatment modalities, such as curettage, excision or the use of photosensitizers, may be employed," they write. "Such treatment would likely limit the incidence of recurrence and the development of invasive squamous cell carcinoma."

The study suggests hair follicles might contribute greatly to deeply invasive squamous cell carcinoma development — a relationship which has played out in animal studies. Another important take-away from the story for dermatologists: sweat glands, were rarely involved in this study and do not appear to play a major role in invasive squamous cell carcinoma in the presence of an actinic keratosis. While sweat glands might have been involved in their most superficial portion, the skin cancer never was identified nearby.

Together, the findings support the thinking that only the hair follicle, among adnexal structures, plays a key role in invasive squamous cell carcinoma genesis.

Disclosure
The study has no funding sources. Some of its authors are consultants to and speakers for Almirall, Novartis and Leo Pharma.

Reference
A single drug may control skin cancer treatment costs

The decades’ old tried and true chemoprevention drug, topical fluorouracil 5% (5-FU), is an effective, cost-saving option for actinic keratosis treatment and squamous cell carcinoma prevention, according to a recent study of patients in the Veterans Administration (VA) health system.

“We found that veterans who were at high risk for keratinocyte carcinoma, or nonmelanoma skin cancer, and treated with 5-FU had lower healthcare costs related to treatment of this condition and the related condition, actinic keratosis, over a three-year period,” says the study’s corresponding author Jean Yoon, Ph.D., an investigator with the VA Palo Alto Health Care System.

“So, dermatologists should consider treating patients at high-risk for nonmelanoma skin cancer with 5-FU to reduce their patients’ risk of developing and being treated for these conditions.”

The study was published in the March issue of the journal of the American Academy of Dermatology.

Nonmelanoma skin cancer, the most common cancer in the United States and one that is increasing in incidence, accounts for $4.8 billion in direct treatment costs in the United States annually.

Investment in effective keratinocyte carcinoma and actinic keratosis prevention might help to lower treatment costs. And while medications, including oral isotretinoin, acitretin and nicotinamide, as well as sunscreen prevention, their effectiveness often ends with discontinued use. A recent VA trial looking at nonmelanoma skin cancer, found squamous cell carcinoma rates, but not basal cell carcinoma rates, decreased significantly with short-term application of the topical chemoprevention after one year.

The same treatment also significantly reduced the incidence of actinic keratoses in the study subjects for at least three years post treatment.

Dr. Yoon and colleagues compared the impact of a single topical 5-FU course on face and ears to a control group receiving vehicle control cream for reducing keratinocyte carcinoma risk. They studied a total 932 adults, 468 of which were treated with 5-FU, in the VA healthcare system who were at high risk for keratinocyte carcinoma, enrolling participants in the trial between June 2009 and September 2011, and completing the follow-up in June 2013. They looked at trial data and administrative data, including utilization and costs for outpatient procedures and related drugs, to measure differences between patients who were treated with 5-FU and those who weren’t.

They found that after one year, patients in the control arm were significantly more likely than those in the investigational group to have treatment encounters for squamous cell carcinoma. In the second and third year’s post-randomization, there were no differences in squamous cell carcinoma encounters between treatment groups.

There were no differences between procedures to treat basal cell carcinoma between groups after the first year. In the second year, the interventional arm had a higher mean number of encounters, but in the third year there were again no differences in that regard between groups. It’s unclear why basal cell carcinoma costs fluctuated in this way, according to the authors.

Treatment and dermatologic costs for patients in the investigational arm were a mean $2,106 compared to $2,444 among the controls over a one-year period. Spending on the interventional arm was $771 per patient less than in the control group after three years.

“A modest investment of $78 for a one-course treatment of 5-FU on the face/ears among patients at risk for [keratinocyte carcinoma] resulted in reduced costs of $741 per patient over three years of follow-up,” the authors write.

With about 90,000 VA patients being treated for nonmelanoma skin cancer in a given year, the researchers calculate using 5-FU could save the VA $69 million during three years.

It’s unclear whether patients treated in other systems such as Medicare would incur cost savings from 5-FU treatment, according to the authors. Medicare and other insurers pay more for 5-FU than the VA, so the reductions in cost using Medicare health care costs was not found to be statistically significant in the study, according to Dr. Yoon.

“We need to learn more about which patients benefit the most from 5-FU, but many VA patients who are at high risk for developing nonmelanoma skin cancer could be treated with 5-FU,” Dr. Yoon says. “In our study of VA patients, we found that 5-FU had significant effects on reducing treatment of certain kinds of nonmelanoma skin cancer and actinic keratosis, so we would expect similar results in a similar population. The VA gets certain drug discounts, so the cost savings that we found in the VA system did not apply outside the VA system.”

Given the magnitude of nonmelanoma skin cancer and actinic keratosis among veterans in the VA health care system and in other at-risk populations, the cost savings associated with chemoprevention in this study should dermatologists and others consider widespread use of 5-FU, the authors conclude.

Quick Takes
Nonmelanoma skin cancer accounts for $4.8 billion in direct treatment costs in the U.S. annually.

5-FU could possibly save the VA $69 million as an alternative Tx over the course of three years.

Use of 5-FU led to fewer follow-up office visits.

Reference
Targeting survivin may open new avenues for immunotherapy

JOHN SCHIESZER | Staff Correspondent

Antibody-mediated, immunotherapeutic strategies that target survivin, a key cancer-related protein, may offer promising treatment approaches for a variety of cancers, according to a study published online in Clinical Cancer Research. Investigators at Roswell Park Comprehensive Cancer Center found that this commonly occurring molecule in cancer cells may be an attractive target for a broad range of immunotherapy approaches, including CAR-T (chimeric antigen receptor T-cell) therapy.

It has been known for some time that survivin is a protein present within the nucleus, cytoplasm, and mitochondria of the cell. Senior author Michael Giesielski, Ph.D., from the Department of Neurosurgery at Roswell Park, Buffalo, New York, said it has been targeted in cancer cells by T-lymphocyte-mediated immunotherapeutic approaches.

“We discovered that, contrary to previous understanding, survivin is also present on the cell membrane in a wide variety of cancer cells. Moreover, antibodies to survivin, which cannot ordinarily penetrate the intact cancer cell, inhibit tumor growth in vivo. These findings were quite surprising and contrary to established scientific dogma,” Dr. Giesielski said.

Dr. Giesielski and his team found that survivin is present on the outer cell membrane of a wide variety of cancer cell types, including both murine and human glioma cells. The researchers theorize that targeting the survivin protein may be more effective than standard therapy for some patients with glioblastoma.

“Anti-survivin antibody-mediated therapies could be effective against a wide range of different cancers,” said lead study author Robert Fenstermaker, M.D., Chair of Roswell Park’s Department of Neurosurgery.

Survivin is highly expressed by many types of cancer, including many glioma, lung, pancreatic, breast, and neuroendocrine tumors, as well as some forms of multiple myeloma, lymphoma, and leukemia. Fenstermaker said since survivin is now known to be present on the outer surface of many different types of cancer cells, it may be possible to attack this protein through the use of targeted antibodies, antibody fragments, and CAR T cells.

“The work identifies a new and potentially important target for cancer immunotherapy,” Dr. Fenstermaker told Cancer Network.

The researchers hope that this approach can be used to target both solid and liquid tumors, a finding that could help broaden the applications for CAR-T therapies generally. Currently, CAR-T therapies approved by the US Food and Drug Administration are limited to treatments for liquid/hematologic cancers.

Second-line treatment: factors to consider FROM PAGE 45

key factors to consider when selecting a treatment regimen. These include patient-related factors, such as the presence of BRAF-mutated vs wild-type disease, or NRAS and KIT mutations.

Also important is the patient’s best response to therapy, treatment administration in the adjuvant vs metastatic setting, the timing of relapse in relation to therapy, and prior toxicities that were experienced.

“I think it is reasonable for a patient who is progressing on a PD-1 inhibitor to consider dual checkpoint inhibitor therapy, and that is stated in NCCN guidelines,” Salama commented.

The guidelines also state that reinduction with the same agent/agents can be considered for patients who achieve disease control and do not experience toxicity, but subsequently experienced disease progression less than three months after the therapy was continued.

While some data exist on dual checkpoint-inhibitor therapy in the second-line setting, response rates are about half of those seen in the front line.

“While there is activity, it is diminished, which is what would be expected in treating a less favorable patient population,” Dr. Salama said. “But of concern is that, despite the efficacy being cut in half, the toxicity is not.”

In one study of 64 patients who received combination therapy with nivolumab/ipilimumab, 91% had at least one clinically significant adverse event, while 40 patients had at least one emergency department visit because of treatment toxicity.

Studies have also investigated the sequencing of BRAF-targeted therapy and immunotherapy. In one series reported in 2014, when checkpoint therapy largely consisted of ipilimumab, “there were some challenges giving up front BRAF-inhibitor therapy and then trying to treat with immunotherapy,” said Dr. Salama.

Patients treated with immunotherapy first still derived some benefit from BRAF-inhibitor treatment in the second-line setting. However, among those who received ipilimumab after BRAF-inhibitor therapy, the vast majority derived almost no clinical benefit.

In 2018, with the availability of improved checkpoint inhibitors, a retrospective study of treatment sequencing compared outcomes in 58 patients who received BRAFi +/- MEKi therapy first with 56 patients who received an anti-PD-1 agent first. There was no statistical difference in overall survival between groups overall (40.3 months vs 27.5 months; P = .7). Those who received second-line anti–PD-1 therapy had a lower overall response rate (25% vs 40%).

“Right now there are more questions than answers in BRAF-mutated melanoma,” Dr. Salama said. “There are more options than ever and there is no perfect therapy.” More prospective data are needed to identify optimal combinations and sequencing, and investigation of these questions is ongoing.
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*Based on available 510(k) summaries as of October 2017.

Minimize lidocaine toxicity risk

Carefully consider dose, surface area, agent and application duration

INGRID TORJESEN | Staff Correspondent

Quick Takes

Lidocaine is the most common local, topical anesthetic used in energy-based treatments.

Early signs of toxicity are linked to CNS excitation.

Cooling and distraction techniques can help minimize discomfort.

In 2005, a 22-year old student in South Carolina died from a fatal dose of lidocaine after she was given a topical anaesthetic gel by a spa employee and told to apply it from her groin to her ankle and cover it in plastic in preparation for hair removal treatment on her leg.

After applying the gel (10% Lidocaine + 10% tetracaine + Phenylephrine gel) she was found having seizures in a car, she then experienced pulmonary arrest and died eight days later.

Three years earlier, a 25 year old girl had been given a weaker gel (6% Lidocaine + 6% tetracaine) to apply by a spa employee without instructions. She applied it from ankle to groin, experienced seizures and spent the next two years on a respirator.

These cases highlight the potential toxicity of anaesthetics, and especially those containing lidocaine, says H. Ray Jalian, M.D., associate director at the Santa Monica/UCLA Laser and Cosmetic Center.

“All anesthetics, whether injected or applied topically, have the potential to cause toxicity. Lidocaine is the most common local and topical anesthetic used in laser and light-based procedures. Providers have to be careful in terms of dosage administered, surface area applied to, agents selected, and duration of application. Providers should also be aware of the early and late signs of lidocaine toxicity,” he said.

The early signs of lidocaine toxicity are linked to CNS excitation and include circumoral and/or tongue tingling, metallic taste, lightheadedness, dizziness, visual and auditory disturbances (difficulty focusing and tinnitus), disorientation and drowsiness. Later consequences include muscle twitching, convulsions, unconsciousness, coma, respiratory depression and arrest, cardiovascular depression and collapse.

“Unfortunately, there are no real alternative to topical lidocaine for anesthesia,” Dr. Jalian points out. “The FDA recommends using the lowest percent formulation necessary to achieve adequate anesthesia. As well as limit the time of application to the minimum that is possible. This will limit the potential for side effects and toxicity.”

Dr. Jalian recommends applying topical anesthetic containing lidocaine only to pain “hot spots,” adjunctive analgesics (PO, nitrous oxide) should be used where possible, and treatment over large areas be split into several sessions. In addition, cooling, and distraction techniques, such as stress balls and conversation or “talkasthesia” can help reduce patients’ discomfort during treatment.

Patients asked to apply anesthetic should be told to do so only one hour before treatment and only to a designated limited surface area. The product should only be applied to intact skin, then covered with plastic wrap. It should not should not be applied post procedure, he emphasizes.

References

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One-pass PDL effective for facial rejuvenation

A pulsed dye laser, developed for the treatment of vascular and pigmented lesions of the face, has been shown to be an effective one-pass treatment for facial rejuvenation in a pilot study.

Compared to existing technologies, the 595nm pulsed dye laser enjoys a larger spot size range, longer dye life, options for cryogen spray or contact cooling, and an option for radiofrequency energy deployment just before the laser pulse.

The laser was used on a total of 13 patients (12 Caucasians and one Hispanic; 9 females and 4 males), aged 51-74 years, with Fitzpatrick Skin type I-III (I n=1; II n=9; III n=3) to treat 16 facial lesions. The lesions included diffuse redness (n=3), photodamaged (n=10) and telangiectasia (n=3) colored red and/or brown. All patients received two treatment sessions, and one patient had three sessions.

The spot size range used was 5-12mm, and fluences ranged from 8-18 J/cm², with smaller fluences applied for general rejuvenation with the larger 12mm spot (mean 9 J/cm²). The smaller spot was used for focal low contrast pigmented lesions and vessels that persisted after overall facial treatment with the larger spot. The minimum fluence that achieved vessel closure and/or slight immediate pigment darkening, was applied based on test spots performed just before treatment to the entire face, and treatment was mainly without radiofrequency energy deployment.

Lidocaine cream (5%) was applied 30-60 minutes before all treatments. During treatment sapphire contact cooling was applied at 10°C, but cryogen spray cooling was not applied in full treatment sessions, as it tended to overcool the epidermal pigmented lesions in test areas.

E. Victor Ross, M.D., director of the Laser Cosmetic Dermatology Centre at Scripps Clinic in San Diego, said that use of the Dynamic Cooling Device (DCD), which sprays the skin with a burst of cryogen milliseconds before the laser pulse, is “probably the best epidermal protection but sometimes it’s too much” as treatment would then require two or three passes.

Photographs of 13 lesions taken at baseline and three months post-treatment were assessed by two blinded dermatologists.

All lesions had at least 50% clearance.

“We really found this laser to be better than what we had before. The key features were increased energy over the old device and increased maximum spot size up to 15 mm.”

E. Victor Ross, M.D., director of the Laser Cosmetic Dermatology Centre at Scripps Clinic in San Diego

Reference

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If you base your treatment decisions on what the patient presents with and how you can try to fix it or reverse it, your treatment plan will make sense.”

E. Victor Ross, M.D., San Diego, Calif.

Combined treatments can optimize patient outcomes FROM PAGE 1

must be staggered for safety and efficacy.
For example, said E. Victor Ross, M.D., skin laser surgery specialist at Scripps Clinic Carmel Valley in San Diego, fillers, neuromodulators, and light-based technologies or energy-based technologies, fillers, and neuromodulators can all be implemented in the same session. He also added the long-held belief that introducing lasers could destabilize or damage fillers has been largely debunked. You can use both modalities in the same session without problems.

Dr. Green also emphasized the role botulinum toxin can play with scars and wound care. If a patient has scars from MOHS surgery or an accident, use a laser on the area within two-to-three weeks. Alongside that therapy, he said, inject botulinum toxin into the muscle around the wound to prompt a molecular effect that promotes healing.

Most importantly, though, said Dr. Narurkar, who discussed optimizing combination therapies, you must remember that you, as the provider, play a significant role in a patient’s satisfaction level. Talk with them before any procedure to ensure they understand all possible results.

“It is important to educate patients on realistic outcomes with each modality and develop a treatment plan that is sensitive to both outcomes and the patient’s budget,” he said.

In fact, he said, his practice published the HARMONY study, the first prospective, multicenter study concentrating on outcomes when patients receive Botox, mid-face and upper-face fillers, and himatoprost. Based on patient- and investigator-reported assessments, patient satisfaction with combination therapy is very high.

These satisfaction rates also underscore whether combination therapy is a feasible option both for dermatologists to provide and for patients to receive.

“These techniques are very practical, and we use them on a daily basis,” Dr. Narurkar said. “The majority of our patients receive combination therapies.”

In his practice, all patients undergoing any laser resurfacing are first prepared with a skin care regimen. The preferred facial combination is fraxel for photodamage, Botox for dynamic rhytids, and panfacial fillers for facial shaping. For the neck, the favorite combination is thermage for laxity, kybella and/or coolmin for submental fat, Botox for platysmal bands, and fraxel for photodamage.

PROS & CONS
As with any treatment option, combination therapy has its positives and negatives. Overall, the biggest benefit of combining energy-based device treatments and injectables is time saving for the patient, Dr. Green said.

“Rather than have the patient return for multiple office visits, in one or two sessions you can accomplish many things,” he said. “With injectables and different devices, the goal is to try to make one-plus-one equal three.”

But, there is a downside associated with this combination approach, he said. To date, there’s a lack of evidence-based medicine to guide providers on how best to use the combination approach. The research base is growing, and an increasing number of dermatologists are sharing their grassroots experiences, but there’s still much to learn.

Price can also be a deterrent, Dr. Narurkar said. In some instances, the price tag for completing more treatments during one or two sessions can be too high for patients.

STUMBLING BLOCKS TO AVOID
According to Dr. Narurkar, one of the biggest mistakes with combination therapies is pairing procedures together that shouldn’t be performed on the same day. Doing so can prompt adverse effects for the patient. For example, dermal fillers that are placed deep shouldn’t be completed on the same day you provide any resurfacing procedures, such as micro-needling or laser resurfacing. If you do, infection, biofilm, and granulomas can occur.

In addition, fillers and laser interventions can sometimes cause discomfort, and improperly managing a patient’s pain can be problematic, said Dr. Ross, who discussed upper and mid-face combination jewels.

“You have to move quickly when you’re using numbing cream and removing it. If you’re performing multiple procedures, everything will take longer,” he said. “You can’t dilly-dally because the effects of the numbing cream wear off quickly.”

Be sure you don’t use too much numbing cream, though. Limit the amount you use to between 50 grams-to-60 grams, he said. Any more than that can reach toxic levels.

It’s also important, when you’re performing laser procedures, to keep the skin cool and avoid overheating. If you’re completing multiple laser treatments, reduce the settings to ensure patient safety. Use an air cooler or contact chiller to decrease the effects of the heat you’re introducing to the patient’s body, he said.

Proper sterilization with open-skin wounds can sometimes be a sticking point, as well, Dr. Ross said. In any case where bleeding is possible or if the skin is broken, be sure to use devices that allow for single-use tips.

Ultimately, he said, combining energy-based devices with injectables opens doors for treating patients more effectively and swiftly. But, there’s no cookie-cutter, mandated approach. Instead, dermatologists should use their best judgment when combining therapies with individual patients.

“If you base your treatment decisions on what the patient presents with and how you can try to fix it or reverse it, your treatment plan will make sense,” he said. “And, if you’re careful, you can do a lot of things at the same time to help your patients.”
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• Unprotected exposure to sunlight, including sunlamps, should be minimized during the use of RETIN-A MICRO, and patients with sunburn should be advised not to use the product until fully recovered because of heightened susceptibility to sunlight with the use of tretinoin.
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• Weather extremes, such as wind or cold, also may be irritating to patients under treatment with tretinoin.
• The most common adverse events are mild to moderate irritation (erythema, peeling, dryness, burning/stinging, or itching of the skin).
• RETIN-A MICRO should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus, and caution should be exercised in prescribing for nursing mothers. Safety and efficacy in patients under 12 have not been established.

To report SUSPECTED ADVERSE REACTIONS, contact Ortho Dermatologics at 1-800-321-4576 or FDA at 1-800-FDA-1088 or visit www.fda.gov/medwatch.

Please see Brief Summary of full Prescribing Information on the following page.

The significance of these spontaneous reports in terms of risk to the fetus is not known.

For purposes of comparison of the animal exposure to systemic human exposure, the MRHD applied topically is defined as 1 gram of Retin-A Micro (tretinoin) Gel microsphere, 0.1%, applied daily to a 60 kg person (0.017 mg tretinoin/kg body weight).

Pregnant rats were treated with Retin-A Micro (tretinoin) Gel microsphere, 0.1%, at daily dermal doses of 0.2, 0.5, 1.0 and 5.0 mg/kg/day tretinoin on gestation days 7-19. Alterations were seen in vertebral and rib development. Therefore, Retin-A Micro (tretinoin) Gel microsphere, 0.1%, is contraindicated in women who are or may become pregnant.

Pregnant New Zealand White rabbits were treated with Retin-A Micro (tretinoin) Gel microsphere, 0.1%, at daily dermal doses of 0.2, 0.5, 1.0 and 5.0 mg/kg/day tretinoin on gestation days 7-19. Doses were administered topically for 24 hours a day while wearing Elizabethan collars to prevent ingestion of the drug. Increased incidences of certain alterations, including domed head and hypopherophy, typical of retinoid-induced fetal malformations in this species, were observed at 0.5 and 1.0 mg/kg/day. Similar malformations were not observed at 0.2 mg/kg/day, 4 times the MRHD based on BSA comparison. Other pregnant rabbits exposed topically for six hours per day to 0.5 or 1.0 mg/kg/day tretinoin while restrained in stocks to prevent ingestion did not show any malformations at doses up to 19 times (1.0 mg/kg/day) the MRHD based on BSA comparison, but fetal resorptions were increased at 0.5 mg/kg (10 times the MRHD based on BSA comparison).

Oral tretinoin has been shown to cause malformations in rats, mice, rabbits, hamsters, and nonprimates. Tretinoin induced fetal malformations in Wistar rats when given orally at doses greater than 1 mg/kg/day (10 times the MRHD based on BSA comparison). In the cynomolgus monkey, fetal malformations were reported for doses of 10 mg/kg/day but none were observed at 5 mg/kg/day (60 times the MRHD based on BSA comparison), although increased skeletal variations were observed at all doses. Dose-related increases in erythroblastopenia and abortion also were reported. Similar results have also been reported in pigmented macaques.

In oral peri- and postnatal development studies in rats with tretinoin, decreased survival of neonates and growth retardation were observed at doses in excess of 2 mg/kg/day (19 times the MRHD based on BSA comparison).

Nonteratogenic effects on fetus

Oral tretinoin has been shown to be fetotoxic in rats when administered at doses 24 times the MRHD basically comparable to those used in the development study in rats at doses 10 times the MRHD based on BSA comparison.

Topical tretinoin has been shown to be fetotoxic in rabbits when administered at doses 10 times the MRHD based on BSA comparison.

Nursing Mothers

It is not known whether tretinoin and/or its metabolites are excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Retin-A Micro is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in children below the age of 12 have not been established.

Geriatric Use

Safety and effectiveness in a geriatric population have not been established. Clinical trials of Retin-A Micro (tretinoin) Gel microsphere, 0.1% and 0.04%, did not include sufficient numbers of subjects aged 65 and over to determine whether they responded differently from younger subjects.

OVERDOSAGE

In oral ingestion of large amounts of the drug may lead to the same side effects as those associated with excessive oral intake of Vitamin A.

NONCLINICAL TOXICOLOGY

Carcinogenesis, Mutagenesis, Impairment of Fertility

Dermal carcinogenicity testing has not been performed with Retin-A Micro (tretinoin) Gel microsphere, 0.1%, 0.08%, 0.06%, or 0.04%.

In a 91-week dermal study in which CD-1 mice were administered 0.017% and 0.035% formulations of tretinoin, cutaneous squamous cell carcinomas and papillomas in the treatment area were observed in some female mice. These concentrations are near the tretinoin concentration of the 0.04% and 0.035% clinical formulations. A dose-related incidence of liver tumors in male mice was observed at those concentrations. The maximum systemic doses associated with the administered 0.017% and 0.035% clinical formulations are 0.5 and 1.0 mg/kg/day tretinoin, respectively. These doses are two and four times the MRHD based on BSA comparison.

The biological significance of these findings is not clear because they occurred at doses that exceeded the dermal maximally tolerated dose of tretinoin and because they were within the background natural occurrence rate for these tumors in this strain of mice.

There was no evidence of carcinogenic potential when 0.025 mg/kg/day of tretinoin was administered topically to mice (0.1 times the MRHD based on BSA comparison). Studies in hairless albino mice suggest that concurrent exposure to tretinoin may enhance the tumorigenic potential of carcinogenic doses of UVB and UVA light from a solar simulator. This effect has been confirmed in a later study in pigmented mice, and dark pigmentation did not overcome the enhancement of photocarcinogenesis by 0.05% tretinoin. Although the significance of these studies to humans is not clear, patients should minimize exposure to sunlight or artificial ultraviolet radiation sources [see Warnings and Precautions].

The genotoxic potential of tretinoin was evaluated in the Ames assay and in the in vivo mouse micronucleus assay, both of which were negative.

The components of the microspheres have shown potential for genetic toxicity and fetal malformation. EGDMA, a component of the acrylated copolymer, was positive for induction of structural chromosomal aberrations in the in vitro chromosomal aberration assay in mammalian cells in the absence of metabolic activation, and negative for genetic toxicity in the Ames assay, and in the in vivo mouse micronucleus assay. In oral fertility studies in rats with tretinoin, the no-observance effect level was 2 mg/kg/day (19 times the MRHD based on BSA comparison).

PATIENT COUNSELING INFORMATION

ADDITIONAL INFORMATION

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Based on 9612500 October 2017 RAM.0025.USA.17
Advances in energy-based technology development

JEFFREY FRENTZEN | Staff Correspondent

The use of lasers, radiofrequency (RF), and light-based technologies in cosmetic procedures has swelled in recent years, as device manufacturers explore the outer limits of safe energy-based approaches and physicians increasingly purchase new, clinically proven devices. Furthermore, people that normally would have avoided aesthetic procedures in the past — usually due to fear of surgery — are now much more open to less invasive non-surgical applications.

To further validate these trends, in 2016 the global market for all energy-based aesthetic device platforms and disposables reached over $1.5 billion (excluding skin tightening and body shaping systems), according to a market study from Medical Insight (Irvine, Calif.) called Energy-Based Aesthetic Devices.

A major expansion of these types of systems is underway with solid growth in this segment, Medical Insight’s data show. Over the next few years, the total market for energy-based aesthetic devices, including disposables, is expected to expand by 5.8% per year to over $2 billion.

The most popular energy-based procedures, such as hair transplantation and removal, body shaping/skin tightening, facial rejuvenation, cellulite reduction and feminine rejuvenation, have advanced in high-tech sophistication and functionality, and practitioners are fully embracing these newer modalities.

Many offer single session, no downtime treatments that don’t necessarily replace surgical results, but satisfy the needs of a growing patient base.

According to Jason Pozner, M.D., F.A.C.S., a plastic surgeon and medical director of Sanctuary Medical Aesthetic Center and Sanctuary Plastic Surgery in Boca Raton, Fla., “Multifunction platforms are also gaining popularity. For instance, we had been using only a portion of one energy-based system for a long time, even though it is capable of several modalities. In the past, it was common for practices to utilize one device for this procedure and a different device for another procedure. However, increasingly patients have been asking for holistic, multiple treatments, so it made sense to exploit every capability of our energy-based platform.

“Combining modalities and consolidating multiple functions in a single system, as well as joining those treatments with other approaches is the wave of the future,” Dr. Pozner continued. “Multiple modality methods are what is taking place in practices today.”

Cutting edge technology improvements and scientific breakthroughs also drive the market, noted Neil Sadick, M.D., a dermatologist and clinical professor of dermatology at Weill Cornell Medical College (New York City, N.Y.). “For instance, a great new technology features a combination of useful picosecond ability with a special red lens that operates at 670 nm, which is very good in treating pigmentation, brownish tattoos and scarring. It also has both nanosecond and picosecond pulses,” he said.

Products that offer multiple tunable wavelengths are emerging, Dr. Sadick noted. For instance, Solta Medical, a division of Valeant Pharmaceuticals North America, is developing a new system based on TRASER (Total Reflection Amplification of Spontaneous Emission Radiation) energy, which is tunable to various wavelengths from below 532 nm to close to infrared, as well as varying pulse widths and changing pulse modes to attain very high fluences.

Other laser-based technologies include the NS-532 Laser System from NewSurg (Hilltown, Pa.), a compact, portable and affordable 532 nm laser that sets a new standard in the evolution of simple, efficient aesthetic treatments. This device can be used for the safe and effective treatment of pigmented and vascular lesions on all skin types.

NeoSkin from Aerolase (Tarrytown, N.Y.) takes skin rejuvenation to a new level via 650 microsecond laser technology. Using a multi-treatment approach with a single device and handpiece, NeoSkin delivers a comfortable, efficacious treatment that addresses a number of indications, including severe and cystic acne, neocollagenesis, spider veins, melasma, tone, texture and more. This system produces consistent results without per-treatment costs or consumables, and can also be safely used on all skin types.

The SP Dynamis™ from Fotona, LLC (Dallas, Texas), joins two complementary laser wavelengths to function as versatile multipurpose systems that can perform a wide-range of applications in aesthetics, surgery and gynecology.
venation treatments. Using ThermiVa’s temperature control capability, physicians can customize the selected therapeutic endpoint for each patient. During the procedure, which is non-invasive, non-ablative, non-hormonal and requires no anesthesia, the ThermiVa handpiece addresses the internal and external anatomical features of the vagina by gently heating tissue so that women can reclaim, restore and revive skin without discomfort or downtime.

Even more so than feminine rejuvenation, the market for energy-based body shaping and skin tightening is becoming quite large, as well. Many practitioners, especially surgeons are attracted to these modalities in order to offer patients less invasive therapies or as an adjunct to surgical interventions.

As part of the body shaping craze, people are looking for solutions that work to solve the problem of cellulite. “The increased demand for cellulite treatments has driven both men and women into clinics,” noted Dr. Sadick. “As products like Cellfina (Merz Aesthetics) and Cellulaze (Cynosure) have entered the market, patients are excited about new technologies that actually work.”

According to Medical Insight’s July 2017, report, Energy-Based Body Shaping & Skin Tightening, North America is the largest single market for body shaping and skin tightening devices, with platform sales of about $405 million in 2016 and annual growth through 2021 anticipated at approximately 11%. Dur-
ing the same time period, rising consumer interest in these procedures is expected to expand by 14.5% per year. Disposable sales are likely to rise by a robust 19.5% per year as procedure volume swells.

Alma Lasers (Buffalo Grove, Ill.)’s Shape Ultra platform system for face and body treatments, features both RF and recently added ultrasound technology, as well as a unique stand-alone photo imaging solution to track patient results. With multiple revenue streams and zero disposables, the Shape Ultra represents a robust platform that features JuVaShaper technology and provides a total patient lifestyle solution. The JuVaShaper treatment includes proprietary Unipolar and Bipolar RF therapies for deep and superficial dermal heating to treat conditions such as cellulite, along with a microablative RF needleling module for fractional skin resurfacing.

Thermi’s RF-based platform incorporates various body shaping techniques, including those addressing cellulite. ThermiRF® and Thermi250® offer temperature controlled RF-based systems that are designed to produce outcomes via the application of controlled heat. ThermiRF combines temperature control with advanced real-time temperature monitoring to enable numerous non-invasive and minimally-invasive soft tissue treatments. These procedures can be performed in-office and offer natural looking results. Thermi250 is a high-powered, temperature controlled RF-based device emitting at 470 kHz. The platform is designed with a unique feature set to enable versatility. Ranging in size from 20 mm to 100 mm, the electrodes provide precision depth control. Treatments are non-invasive, non-ablative and require no downtime.

“Any concept that is gaining traction in practices is the inside-outside approach to these kinds of therapies,” added Dr. Sadick. “Physicians might want to use the Thermi system, which is a targeted internal RF probe, with a modality that works externally, such as the Venus Legacy or any of the non-invasive treatments for tightening skin, reducing cellulite and improving wrinkles. Any of the newest cellulite reduction techniques can also be used synergistically with most other RF-based systems.”

Synergistic therapies are also a hallmark of the latest hair removal and transplantation therapies, reported Dr. Sadick. “For instance, energy-based microneedling devices can work well with platelet-rich plasma (PRP) injections,” he said. “In addition, watch for new technologies in this area that might end up being extra effective in terms of less transection of follicles.”

Currently, the trend in hair transplantation is the growing popularity of the minimally invasive Follicular Unit Extraction (FUE) technique, in which hair grafts are removed one at a time from the donor area. Compared to earlier approaches, FUE is less painful and can result in faster recovery time with little or no scarring. “The era of FUE is here now,” Dr. Pozner reported. “Many people want it and the devices are getting easier to use and are much better than previous versions. The biologics are beginning to take off, as well. For instance, we have combined hair therapies with PRP, which seems to have potential uses in helping grafts take.”

Scientific studies of PRP use in medical aesthetics, particularly for hair restoration procedures, TECHNOLOGY CONTINUES ON PAGE 64.
are beginning to show up, as well. As reported by Dr. Sadick, “A major study on PRP expected soon will look at the correlation of platelet counts, efficacy and the concentrate of the molecular simulating cytokines within the platelets.”

PRP is not a new technology but it is a hot area, Dr. Sadick continued. “The question is still, what is the best delivery system? Is it RF-based microneedling or fractional lasers that create random cutaneous channels, or is direct subdermal delivery via a needle the best way? We’re trying to iron out the exact treatment protocols for PRP,” he said.

Additionally, microneedling devices are designed to address more concerns than just hair transplantation. One such product, the INTRAcel fractional RF microneedle (FRM™) manufactured by Jeisys Medical (Seoul, Korea) and available in the U.S. via Perigee Medical (Tracy, Calif.), applies monopolar and bipolar RF-based energy via 49 insulated microneedles to treat acne scarring, wrinkles, various skin irregularities, large pores, general rejuvenation, reduction of stretch marks and collagen stimulation. Offering proprietary real time impedance feedback, INTRAcel allows precise and independent control of RF energy delivery, depths and thermal zones in any layer of the skin. Physicians can fine tune treatments by selecting and combining the ideal energy needed to achieve the best results with the most patient comfort.

The Dermapen3 MD from DermapenWorld (Fort Lauderdale, Fla.) provides vertical microneedling via proprietary Automatic Oscillating Vertical Needling (AOVN™) fractional rejuvenation technology. The device creates up to 1,300 micro channels per second at precise treatment depths from 0.01 mm to 2.5 mm without compromising tissue integrity, while ensuring reduced epidermal damage. DP Dermaceuticals Skincare Protocols complement Dermapen treatments to eliminate downtime and ensure patient comfort for all skin types. In addition, DermapenWorld offers a host of training protocols to successfully treat numerous indications, including facial rejuvenation, antiaging, hair restoration, stretch marks, pigmentation and more.

“We continue to see therapies where providers are meshing biologics with energy-based treatments,” stated Dr. Pozner. “That’s the future direction. Microneedling devices that deliver substances to the skin, such as PRP, have a good place in the practice. They are great for treating acne scars and for skin tightening.”

Gradually, practitioners have been adopting combination therapies to address facial antiaging, as well, Dr. Sadick added. “This approach employs delivery of serums, growth factors and various biologics using energy-based systems.”

For instance, systems that pneumatically introduce substances to the skin can be used for face-lifting, repairing scars and regenerating skin. “Multiple modality treatments are important when considering the combination approaches to structural rejuvenation,” said Dr. Sadick. “The concept of age prevention is being pioneered as we speak. It includes the concept of using external topicals with internal antioxidants to prevent free radical damage.”

In modern medical aesthetics, there is a big shift towards approaches that emphasize prevention and prophylaxis. Adjunctive products have appeared that also support multiple modality procedures.

For instance, for facial rejuvenation Allumera® from Bellus Medical (Addison, Texas) is a light-activated, professional-grade photodynamic cosmetic cream that can be used as a standalone procedure or in combination with other modalities, in order to minimize the appearance of pores; revitalize skin for a younger looking, clearer complexion; help reduce the appearance of fine lines; and improve skin firmness and overall texture.

For fat reduction and body sculpting procedures, Z Wave Pro from Zimmer MedizinSystems (Irvine, Calif. and Neu-Ulm, Germany) can be used as an adjunct to enable easier, faster recovery and produce quicker, visible results.

This no downtime treatment is comfortable and non-invasive and can enhance body contouring results by transmitting powerful sound waves onto and through the skin. Septae and fat cells are positively impacted, significantly enhancing outcomes and recovery when used following body contouring devices. Z Wave Pro treats the abdomen, upper arms, legs and buttocks following the entire range of energy-based technologies, including Cryolipolysis®, lasers, RF and ultrasound.

“This product represents a textbook example of how physicians can develop multiple modality treatments that make sense and work well together,” said Dr. Pozner. “For instance, you can combine CoolSculpting with the Zimmer device to help break up fat more effectively.”

As energy-based systems evolve there are more protocols being used effectively and safely, along with improved ease of use, less downtime and better outcomes, which will continue to bolster both patient expectations and the overall market’s meteoric rise.
Advanced procedures

Training in surgical procedures can help better serve patients

JOHN JESITUS | Staff Correspondent

Surgical eyelid and neck treatments are within most dermatologists’ expertise, although they may not know it, says Austin, Texas-based dermatologist William Ramsdell, M.D.

“We do so much for our patients with lasers, fillers and neurotoxins,” he says, “We can help them even more if we take the next step and address some of their cosmetic issues surgically.”

As patients age, “Their two most common complaints about their appearance are their eyes and neck. Both of these can be very easily and well handled by surgeries that virtually any dermatologist should be able to perform.” In the past, learning these techniques often required dermatologists to attend surgery-oriented subspecialty conferences, he says.

Dr. Ramsdell offered his insights on neck and eyelid procedures at the American Academy of Dermatology annual meeting in San Diego.

LIPOSUCTION

For liposuction of the neck, he recommends inserting a small cannula at three points: beneath the chin and each earlobe. Using a crisscrossing motion in these areas removes fat but perhaps more importantly causes skin contraction, Dr. Ramsdell says. Dermatologists’ most common misconception involving neck procedures is failing to appreciate how much the skin can contract from simple liposuction, he adds.

Combining platysmaplasty with liposuction requires making 2.5 cm incisions beneath the chin to directly observe the platysma muscle.

“When you open up the neck, fat can be removed directly. Also, when you do that, it’s typical to perform a corset platysmaplasty to tighten the neck.”

SKIN EXCISION

Another option for the neck involves direct skin excision – making incisions in front of and behind the ear to lift and redrape the neck skin in a more superior and posterior position.

“Basically you take that excess neck skin and mobilize it behind the ear.”

Today, he says, nearly all facelifts involve a simultaneous neck lift.

“You would either do liposuction alone or plus platysmaplasty, then a facelift, lifting both the face and the neck up simultaneously.”

For elderly patients with extreme neck laxity who are poor candidates for aggressive face or neck lifts, Dr. Ramsdell often uses the Grecian urn technique. It involves direct excision of excessive skin and fat on the neck midline, followed by mobilization of the platysma and suturing the two halves together to tighten the neck.

“For elderly patients, the results can be phenomenal.”

For successful eyelid surgery, a complete understanding of the periorbital anatomy is paramount, he says. Armed with this knowledge, “A simple blepharoplasty can be performed by virtually any dermatologist, with very minimal training. When you start dealing with lower eyelid blepharoplasty, then things become more complicated.”

Only dermatologists with significant experience treating upper eyelids should undertake this procedure, he cautions.

Eyelid and neck surgeries are “something that most dermatologists are not taught in residency, and they feel it’s beyond their ability to do. But the skills that most dermatologists already possess are adequate – they just need to be trained.”

William Ramsdell, M.D. Austin, Texas

Disclosures: Dr. Ramsdell reports no relevant financial interests.

Reference

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Versatile RF device

BOB KRONEMYER | Staff Correspondent

Cosmetic practices looking to diversify their skin rejuvenation modalities beyond laser and injectables can now offer their patients an effective and versatile radiofrequency (RF) device: the Cynosure TempSure Envi from Hologic Inc.

TempSure Envi also has safety controls, so that once the temperature selected has been reached, the device will cease RF delivery, then resume once the temperature falls below the selected temperature.

“In essence, there is feedback temperature sensing, to not only achieve the selected temperature, but also to not exceed the selected temperature,” Dr. Saluja says.

Dr. Saluja says this integrated monitoring adds significantly to safety: “I can trust the device to execute what I have programmed and that the treatment I am providing is accurate,” she states.

“Other RF devices do not have the temperature control built in.”

Because of these safety features, Dr. Saluja is able to delegate treatment, she says.

TempSure Envi also plays a selection of spa music during treatment, “which correlates to greater comfort for the patient,” Dr. Saluja says. This is in contrast to many RF devices that emit a beeping noise during the entire treatment session, “which can be distracting.”

Dr. Saluja, who was one of the lead investigators in the Institutional Review Board (IRB) study of TempSure Envi, started using the product last September and has treated the face of 50 patients to date.

In addition, 99% of patients reported pain-free treatment, according to a Cynosure in-house study.

Disclosure: Dr. Saluja is on the speakers bureau for Cynosure, has received funds for research consulting, and has served for four years on the advisory board.

Cellulite treatment ‘worth it’

LISETTE HILTON | Staff Correspondent

Without a surefire way to eliminate cellulite, cosmetic physicians and their patients are turning to combination approaches, using devices, fillers and subcision. The approaches seem to be working enough to please consumers, as more than 80% of RealSelf users rate cellulite treatment as “Worth It.”

A new device to enter the cellulite treatment market is the Zimmer Z Wave. It uses soft pulse technology to deliver mild, consistent sound wave therapy over a series of treatment sessions. Results from the Z Wave FDA-cleared device include the temporary reduction of the appearance of cellulite.

Z WAVE TREATMENT DETAILS

Treating a body zone with the Z Wave generally takes from three to four minutes. Patients might see results after two or three sessions. With its 39 mm applicator head, the Z Wave transmits the radial shockwaves directly and precisely into the tissue. In addition to using Z Wave alone or in combination to address cosmetic concerns with cellulite, the device has been used as an adjunct to enhance CoolSculpting (Zeltiq, Allergan), liposuction and other body contouring and fat reduction treatments. The technology promotes angiogenesis, which reduces swelling, expedites lymphatic drainage and helps the body heal faster. Using it might result in skin tightening, according to press information.

WHERE THE Z WAVE FITS IN THE COSMETIC PRACTICE

Gordon H. Sasaki, M.D., a plastic surgeon who practices in Pasadena, Calif., writes in an email to The Aesthetic Channel that he has used the Z Wave for about four years.

He uses it for non-invasive treatment of grade I cellulite; as a combined approach to achieve better adjunct results after CoolSculpting; and to treat irregularities after procedures such as liposuction, abdominoplasties and for submental irregularities after neck lifts, etc.

“The ideal patient is a patient without significant skin laxity with subdermal irregularities,” Dr. Sasaki writes.

The Z Wave is different than other devices because it is an acoustic percussive device, which is well controlled and can be tailored to the patient’s needs. That differentiates it from other sound wave percussive devices, according to the plastic surgeon.

Benefits of the Z Wave are that it is effective with minimal down time to the patient, and easy for the provider, as well as cost effective. There are minimal disposables. After a number of pulses, the hand piece will need to be replaced, he says.

Disclosure: Dr. Sasaki is a clinical provider of the Z Wave but does not have financial or consulting ties with the company.
A critical examination of facial expression

LISSETTE HILTON | Staff Correspondent

Even the slightest tweaks to natural facial expressions, like the smile, can change the way the world views a person’s face, according to artist Gary Faigin.

Faigin not only sketches and paints faces, he also studies them. His fascination of smiles, frowns, angry faces, sad faces, overjoyed faces and more led to the development of his book The Artist’s Complete Guide to Facial Expression. The text, in its 26th printing, is a go-to reference for modern-day animators, including the one who depicted the creature in the new movie The Shape of Water.

His work in facial expression spans three decades. Notably, in the last six years Faigin has been working with a team of computer scientists and animation specialists at the University of Washington to conduct thousands of tests on how others perceive facial expression.

Faigin speaks to various groups, including cosmetic physicians, about his findings. Last year, he presented “Face It. The Seductive Power of the Expressive Face,” at the American Society of Ophthalmic Plastic and Reconstructive Surgery’s Fall Scientific Symposium.

Notably, the study of facial expression isn’t so much about aesthetics, according to Faigin. It’s about science. It’s quantifiable.

Quick Takes
- The slightest tweaks to natural facial expressions can change the way a person’s face is viewed.
- Faigin studies, sketches facial expression
- Facial expression is about science, not aesthetics.
There is 36 square inches of territory that is absolutely critical for our perception of expression in the face — 85% of the emotional content is communicated just by this region.

Gary Faigin Artist and Author of “The Artist’s Complete Guide to Facial Expression”
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Within these 36 square inches, you cannot overestimate how sensitive we are to the tiniest deflection from the norm.

Gary Faigin Artist and Author of “The Artist’s Complete Guide to Facial Expression”

Facial expression: An examination from page 72

work with designers, often they won’t even bother to animate the nose,” he says. “But, within these 36 square inches, you cannot overestimate how sensitive we are to the tiniest deflection from the norm.”

For example, today’s number one nonsurgical option for patients, Botox and other neuromodulators, can be a big problem for empathetic communication.

“Botox primarily paralyzes the muscles in the middle of the forehead that are critical in expressing sadness, thoughtfulness or distress. We’re incredibly sensitive to those signals, evolution’s way of ensuring that we comfort the afflicted; that’s not going to happen with Botox,” Faigin says.

Slight facial changes, from a treatment like Botox, can impact how people are able to communicate, he says.

“If you look around in a café and watch people converse, it’s interesting how often they will frown or lift up their eyebrows — either in an intermediate way, using corrugator and medial frontalis or the frontalis, only,” he says.

These conversational gestures help acknowledge what another has said, according to Faigin.

“It’s interpersonal communication—the fluency of our gestures,” he says. “And it’s very disturbing when you’re talking to somebody, and you can’t tell how they’re responding to you.”

BEWARE THE UNCANNY VALLEY

There’s a well-known term used in animation and robotics: the “uncanny valley.” This phenomenon has to do with uncanny human resemblance of a robot or other creature that isn’t human. There’s a point when the resemblance becomes so human that it becomes creepy to the viewer.

“In Avatar, the aliens were purposely stylized so that when they smiled and frowned, we wouldn’t be applying human criteria to them. The uncanny valley is when we assume a face is human but it’s not responding in the natural human way. We find that creepy,” Faigin says.

Along those lines, a human, whose facial expressions don’t quite match up to what people see as natural, might elicit an uncomfortable response. Faigin has learned by manipulating images on the computer that it’s easy to change a smile from natural and comforting to one that appears strained or stressed and not normal or natural.

FOR MORE about Faigin and his work, go to www.FaiginVFX.com, which includes his Face Blog.
JOIN DR. BRIAN BIESMAN AND DR. MICHAEL GOLD FOR THE 13TH ANNUAL MEETING

The Music City SCALE Meeting is for all physicians and clinicians interested in enhancing their practice and learning more about the latest procedures in aesthetic medicine. Dr. Brian Biesman and Dr. Michael Gold have put together an exciting educational event led by a faculty of luminaries in the laser and aesthetic field. In addition to the educational sessions, there are live patient workshops and an exhibit hall with leading members of industry.

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review of the Manufacturer and User Facility Device Experience (MAUDE) database highlights the most common adverse event associated with medical devices.

Adam Wulkan, M.D., a fellow at Massachusetts General Hospital in Boston who spoke at the American Society for Laser Medicine and Surgery annual conference last month in Dallas, presented findings from an analysis he conducted on adverse events associated with cosmetic medical devices.

The analysis is based on a review of MAUDE records from Jan. 1, 2014 to Oct. 1, 2017 for adverse events associated with seven noninvasive body contouring devices: cryolipolysis, 1060 nm diode hyperthermic laser lipolysis, high intensity focused ultrasound, 1440-nm pulsed laser, high frequency ultrasound, vacuum-assisted subcision and radiofrequency.

“Overall, these are all relatively safe devices when used properly. It is a highly competitive market for device manufacturers, filled with devices that are revolutionizing the field of noninvasive body contouring,” he said.

Even though it is the most prominent database of its kind in the U.S., few physicians, manufacturers and patients use it, which may explain why so few adverse events have been recorded on MAUDE.

The analysis was associated with a number of limitations, including the tendency of adverse events reported by patients to be vague. While patient participation can be insightful, it’s not necessarily informative since many patients treat MAUDE like an online product review website, instead of a mechanism by which to report adverse events directly to the U.S. Food and Drug Administration, which manages MAUDE. More physician users would be beneficial, Dr. Wulkan said.

“Physician education about the existence of this database hopefully will initiate further interest in contribut-
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Smartphone photos aid pediatric diagnoses

ANDREW D. BOWSER | Staff Correspondent

Photos taken by parents and submitted by smartphone are usually of sufficient quality to allow accurate diagnosis of some common pediatric skin conditions, results of a recent study in *JAMA Dermatology* suggest.\(^1\)

In the study, which included 40 patient-parent dyads, there was an 83% concordance between photograph-based diagnosis and in-person diagnosis, according to senior author Patrick J. McMahon, M.D., Section of Dermatology, Division of General Pediatrics, Children’s Hospital of Philadelphia.

Providing basic “how-to” instructions seemed to make the quality of parents’ photos even better, but the study was underpowered to determine whether that difference was significant versus untrained parents, investigators said.

Taken together, these findings suggest parent-operated smartphone photography can be an additional method used to provide pediatric dermatologic care, according to Dr. McMahon.

“There’s always been this looming question as to whether we can trust the photographs that are coming in from parents (via smartphones),” Dr. McMahon tells *Dermatology Times*. “Based on results of this study, I do think in this day and age, we could feel more comfortable using this technology with its current capabilities.”

The study by Dr. McMahon and colleagues is believed to be the first to specifically look at whether parents can take photographs of high enough quality to render a diagnosis, and whether there is a concordance between diagnoses based on those images versus in-person diagnoses.

Previous investigations have mainly focused on the diagnostic value of photographs taken by physicians or other health care providers. In a 2009 study including 135 consecutive children presenting with rash, a concordance rate of 82% was reported for in-person diagnoses versus diagnoses based on photos the investigator took using a 5-megapixel Canon PowerShot digital camera.\(^2\)

In the present study by Dr. McMahon and colleagues, parents used their own personal smartphones to take photographs of their child’s skin condition in the examination room. They securely uploaded the photos using MyChart, a smartphone app that interfaces directly with the child’s electronic health record.

The concordance rate was 83% overall, as previously noted, and 89% in the subgroup of 37 cases where the photographs were of high enough quality to make a diagnosis (three cases had image quality that was too poor to provide a diagnosis).

Concordance varied depending on diagnostic category: it was 100% for 3 cases of hemangiomas, 100% for 6 pigmented lesions, and 92% for 13 cases of rash. By contrast, concordance rates were 67% for 3 nodules/tumors and 64% for 14 alopecia-related diagnoses.

As a secondary aim, Dr. McMahon and colleagues sought to determine whether a basic, three-step instruction sheet on how to take better smartphone photographs would improve image quality. They randomized the parent-patient dyads 1:1 to receive the instructions, though the finding did not reach statistical significance, Dr. McMahon said.

Moreover, there was no statistical difference in diagnostic concordance between parents who received instructions and those who did not.

Parents were also asked to rate their willingness to use a teledermatology app to communicate with a pediatric dermatologist, as opposed to waiting for an in-person appointment. On a scale of 1 to 10, 8 of 10 parents were willing to use the app.

Most parents said they were very willing to use apps and indicated they would pay for virtual pediatric dermatology consultations.

How-to instructions improved quality of images received.

Quick Takes

Parent-submitted photos were often sufficient to accurately diagnose pediatric skin conditions.

Photo courtesy of Patrick J. McMahon, M.D.
Medical Spa management requires thought shift

Physicians and managers who run cosmetic procedure practices might think launching a medspa is a seamless extension of the existing practice.

That’s not the case, says Bryan Durocher, of Durocher Enterprises, which provides coaching, consulting and more for medspas worldwide.

“If you run a medspa like a doctor’s office, you’re going to fail. You have to run it like a retail business,” says Durocher, who spoke on team compensation and pay by performance at this year’s American Med Spa Association (AmSpa) show in Las Vegas.

The same goes for physician practices that venture into traditional spa services, which Durocher calls a trend.

“Right now, we’re seeing physicians are taking over the spa world, as well — not just medical aesthetics. You’ll see a practice offering lasers, Botox, fillers, IV therapy, bioidentical hormone replacement, but then they’re also going to have facials, body treatments, massage,” he says.

The appeal of owning a cash-based business in a world of dwindling reimbursements and growing regulations is obvious. But it’s what physicians don’t know about owning a medspa or spa that can get them in trouble.

For example, medspa employers cannot pay providers commissions for services. That’s illegal in every state and is considered fee splitting, according to Durocher.

“You can pay a commission on a product sold, but not on services. Providers have to be paid a wage,” he says.

And medspas cannot have a reward referral program for referring new patients. But a traditional spa can, according to Durocher.

“That, again, is fee splitting,” he says.

A medspa manager who notices a patient has referred several friends and offers an unsolicited product or service as a thank you isn’t breaking any rules. But a defined program where the medspa solicits referrals for, let’s say $100 off the person’s next Botox treatment, that’s a no-no, he says.

Aesthetician in a traditional spa, on the other hand, can have a spa referral program, if it’s spa related and only dealing with spa clients, he says.

**SPA SALES GOALS**

The physician owner and his or her staff really have to shift their thinking when it comes to how best to compensate providers and staff in the spa facility.

“Medical providers are used to being paid a salary and getting benefits. What they’re not used to is being held accountable to productivity goals,” Durocher says.

Durocher has mapped out four specific areas in which spa staff need to be accountable in meeting set sales goals: service packages, retail dollars, retention and pre-booking. These, he says, have been demonstrated to work in the beauty industry and others.

Before starting these programs, however, practices have to be set up with computerized spreadsheets and software so they can easily monitor these areas. They’ll also have to train staff in how to meet their goals.

**Quick TAKES**

You cannot run your Medspa like a doctor’s office.

Physicians adding spa services must think like a retail business.

There are several state and federal regulations that must be understood.

Expert recommends four areas in which spa staff should be held accountable.

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**If you run a medspa like a doctor’s office, you’re going to fail. You have to run it like a retail business.**

Bryan Durocher, MedSpa Consultant, Durocher Enterprises
Your first laser purchase

Be a smart consumer when adding devices to practice

INGRID TORJESEN | Staff Correspondent

Setting up a dermatology practice is expensive but more so when offering laser treatments. “I always tell people it’s a lot cheaper to start with injectables and pills,” Anne Chapas, M.D., told attendees of the American Society for Laser Medicine and Surgery annual conference in April. “You don’t only have to purchase a device, but there is maintenance, there may be construction issues and you have to think about how you are going to learn how to use it,” said Dr. Chapas who is founder and medical director of Union Square Laser Dermatology in New York.

Dr. Chapas took out a large loan to buy eight lasers when setting up her practice in Manhattan seven years ago, but she advises others that only two are really needed. Her practice now has around 30. When choosing which type of laser to buy, there are many factors to consider. Think about the services you’ll offer, she says. This will depend on the local population, what treatments are popular and the existing competition. In general, it is worth remembering patients coming to dermatology practices are most interested in treatments for wrinkles, redness and sun damage, she points out.

Union Square Laser Dermatology has lots of machines that perform a single function very well, but these are expensive so are best for bigger practices, she says.

Platform machines are a good option for those starting out, as they are more portable and will usually have one stronger feature. Newer machines that are adaptable also require fewer service contracts and engineering visits, but on the downside if the machine breaks down, the practice may not be able to operate. Dr. Chapas cautions against opting for the newest technology. “Patients are looking for really good results, so if there are disappointing results, it is going to affect the reputation of your practice,” she said.

Then think about the practicalities, she says. First ensure the premises are capable of running 220V power supplies, so if the office does not have the correct sockets then they will need to be fitted. Lasers give off a lot of heat, so the air-conditioning system needs of each room must be considered, otherwise there is a risk that the laser will overheat and shutdown. Other equipment may be needed, ranging from a simple vacuum if offering hair removal, to serious protective equipment if radiation is used to treat skin cancers.

There are many purchase options, from short-term trials to see if the laser is right for the clinic, to leasing to own, to buying the laser outright.

Buying is the cheapest option if the cash is available but she would not advise physicians purchasing their first laser to take this approach.

Leasing may be a better option for first timers, she says, bearing in mind that, once signed, leases are very difficult to get out of. Interest rates on leases can vary over time, so the overall rate needs to be calculated to allow terms of different contracts to be compared. Costs of maintenance and updating equipment also need to be factored in. “Everything is negotiable until you sign,” she says. Discounts off the list price may be possible, and once the limit has been reached, try pushing for more disposables.

Shipping costs also need to be considered if the equipment is coming a long distance, and also whether the relevant sales tax is included in the price. Most devices come with a one-year warranty, but it is worth extending this as it is cheaper to do so upfront.

Fixed business costs, running costs and staff need to be factored in — even if the purchase is a good investment.

Make sure that the company representative attends the installation, in case there are any teething problems and to ensure that the staff who will be using it are fully trained.

Be aware of the rules and regulations for laser operation in your state. Know who can operate the device and under which circumstances.

Reference

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10, parents most often selected 10 (very willing) and the median score was 8, Dr. McMahon and colleagues reported.

When asked how much they would pay for a such a virtual visit on a scale of $0 to $200, the median price selected was $20, and answers ranged from $0 to $160, according to the investigators.

Overall, Dr. McMahon said he was encouraged by results of the study and the potential for future use of teledermatology based on parent-submitted images.

“It’s nice to know that the doctors are able to look at a picture and have diagnostic accuracy that’s good enough, even with some images that are imperfect,” he said.

Disclosures: Authors received from the Office of Entrepreneurship and Innovation at Children’s Hospital of Philadelphia. They reported no conflicts of interest.

References

MedSpa management guidelines and policies from Page 83

Owners and managers track sales as a percentage of retail service dollars. So, if in a pay period, an aesthetician sold $10,000 in services and $2000 in retail sales, his or her retail service dollar would be 20% of retail sales service.

“It’s very important that we’re recommending retail because retail is a tool for retention. If a patient leaves the practice with two products that they purchased, they are 40% more likely to come back and to see you than if they left with nothing at all,” Durocher says.

And clients want products that help them maintain their beauty.

“I guarantee if a patient is spending $3000.00 on a service plan, [he or she will] spend $700 on skincare to make sure to maintain that service plan,” he says.

Durocher sets the staff goal for his medspa clients at 120 days, where at least a certain percentage of patients would request to return within 120 days of their last visits.

#4 PRE-BOOKING
It’s important to track and hold staff accountable for pre-booking because it helps to put the provider in control of his or her schedule, generates future business and creates consistency and stability within the medspa.

“The magic number for pre-booking is we want to get at least 75% of our patients on the books for their next appointment before they leave, so we can forecast our numbers,” Durocher says.

WEEDING OUT NON-PERFORMERS
Implementing these goals will help to weed out staff who don’t contribute to the business’ bottom line.

“There are three kinds of people who work for you. There are super producers — the top 20%. … these 20% will usually generate 80% of the revenue in a medical spa. You have people in the middle. They’re good, but you’d like them to do a little more. Then, you have the bottom 20%. I call them cave dwellers,” Durocher says.

Many owners and managers spend all their time with the cave dwellers, begging them to do a little more. Then, you have the bottom 20%. … these 20% will usually generate 80% of the revenue in a medical spa.

The good news is when you have a compensation program like this and you’re interviewing people, people who do not want to be held accountable won’t want to work for you, which is great,” he says.

Durocher sells the program to would-be staff by promising to arm them with the tools they need to be successful. For those that are up to the task, Durocher has four levels of pay structure: silver, gold, platinum and diamond, with different hourly wage associated with each.

Accountability to compensation goals does not only apply to providers. All staff, from the front desk concierge to practice manager, are accountable and can earn more money related to the goals.

“You have to choose software that tracks these things because this is a retail business,” Durocher says. “The wrong compensation program is the number one reason why a medical-aesthetic practice is not profitable.”

Durocher recommends that a medspa’s total compensation in comparison to service dollars should be no more than 35%, where the total payroll burden from the spa would not exceed that percentage.

In essence, an RN that is paid $75,000 a year in the medspa would need to generate at least $300,000 a year in services and products to be profitable, according to Durocher.

“Smartphone management guidelines and policies from Page 83

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Patrick J. McMahon, M.D., Children’s Hospital of Philadelphia

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Telemedicine technology advancing faster than law

While the availability and use of telemedicine services is increasing annually, healthcare providers engaged in providing telemedicine services must carefully navigate numerous regulatory obstacles. Failure to abide by applicable laws may jeopardize the license of the healthcare provider, result in monetary fines and penalties, and increase potential exposure to medical malpractice claims.

FOLLOWING STATE RULES

Licensure presents the most obvious obstacle to the growth of telemedicine services, as state laws governing the provision of telemedicine services differ widely. Generally, healthcare providers are required to be licensed in the state in which the patient receiving the services is located. Certain states, like Texas, offer a special license for the provision of certain types of telemedicine services.

Other states, such as California, allow for limited consultations by out-of-state practitioners without licensure. In evaluating the licensure requirements for the provision of telemedicine services in any state, healthcare providers need to carefully consider the nature and frequency of the services they will provide. For clinicians rendering telemedicine services in multiple states, this can be a time-consuming and costly endeavor.

Obtaining multi-state licensure is only part of the challenge for providers, however. Healthcare providers practicing telemedicine in multiple states are also required to adhere to the standards of medical practice in each state, and state standards of practice vary considerably. For example, in Colorado, the practice of medicine is defined broadly and encompasses telemedicine.

To guide physicians, the Colorado Medical Board has issued a rule for the appropriate use of telehealth technologies in the practice of medicine. However, other states have considerably less guidance available or have not issued any unique laws or regulations concerning telemedicine services.

Adding to the complexity, there is no one location for a provider to find the applicable rules. In some states, these rules are found in statutes and regulations. In other states, they may be found in the rules, policies, and procedures of the state licensing boards.

AWARENESS OF OTHER LAWS

Healthcare providers also need to be aware of federal and state laws governing the privacy and security of medical information and ensure the technology they are using complies with applicable laws. In addition, the availability of reimbursement for telemedicine services varies widely from state to state and should be considered when structuring any arrangement for the provision of telemedicine services.

The Medicare Anti-Kickback statute and the Physician Self-Referral law (also known as the Stark law) and similar state laws may also apply to arrangements for telemedicine services. Lastly, the prohibition on the corporate practice of medicine in certain states may also impact what type of entity may provide telemedicine services.

While telemedicine services have the potential to offer significant benefits to the general population, the government, and the healthcare industry through reduced costs and increased access to care, the technology is advancing at a faster pace than the law.

Disclosures: Marcie M. Damisch, JD, LLM, is a shareholder in Stradling’s Corporate practice group. Her practice is focused on the representation of healthcare providers and related entities.
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Maintain marketing momentum this summer

CHERYL BISERA | Staff Correspondent

Good marketing works any time of year; so, if August is historically slow for you, start promoting August specials and events in June.”

Cheryl Bisera, Author, Columnist

Each practice has its own nuances. Patient mix, community demographics, geographic location, patient volume, providers and history are some of the variables that make up your unique practice strengths, needs and challenges. Whether your practice is historically slow or historically overwhelmed with patient visits in the summer, now is the time to prepare and make it a successful season. Depending on what is typical for your practice and what your goals are, success may be defined as keeping patient needs met while slowing visits for a couple weeks during vacations, or it could be about finding creative ways to boost visits and stagger staff vacations to keep summer buzzing in your practice.

The below tips will help you set up your dermatology practice for a successful summer.

#1 USE HISTORICAL DATA TO PLAN AHEAD.
You need to be armed with knowledge before you can set and meet summer practice goals. Look back at the past two years and assess appointment volume, staff and physician vacations. Was there a decline in appointments or a boost when the kids are out of school? Were declines due to low appointment availability or decreased demand? If availability due to vacations is the culprit, consider temporarily increasing patient hours slightly to accommodate more visits just prior to and after a physician’s vacation to help absorb demand, retain regular revenue and reduce the onslaught upon the provider’s return.

#2 IMPLEMENT A CLEAR PROTOCOL TO SCHEDULE STAFF VACATIONS.
You might require two or three months notice for staff to request time off that exceeds three days. Whatever your expectation is, it needs to be clear and well-communicated. Let’s face it, people like to take time off when their kids are out of school. Giving first come, first serve priority is a fair approach. Priority based on years of employment will favor the same staff year after year.

One idea to help stagger and spread staff vacation time during less busy months is to offer an incentive like an extra day off for those willing to take their vacation during non-summer months.

#3 MARKET YOUR PRACTICE FOR THE VOLUME YOU WANT, WHEN YOU WANT IT.
Influence appointment volume to fill during historically slow times with strong marketing campaigns that remind and incentivize patients to come in. If summer appointment volume slows below your availability, send patient email reminders in spring to have mole checks during summer – make this your annual ‘mole check month(s)’.

Calls to remind and book patients who are over-due for rechecks or aesthetic services that should be recurring for top results are another way to offset seasonal slow-downs. You could also host mid-day or after-hours events like “Mom’s Night Out,” launch seasonal product promotions, and offer incentives to patients for bringing a new patient referral.

Remember, good marketing works any time of year; so, if August is historically slow for you, start promoting August specials and events in June.

Not all practices suffer seasonal appointment volume declines in the summer. Some will struggle to meet demand because of staff and provider vacations. Regardless of the hurdles, reviewing historical data, planning ahead, setting clear protocols, and strong marketing at key times of the year can keep your revenue streams flowing while meeting patient and staff needs through summer!
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to informed consent — whether it is for a medical or cosmetic procedure. These must be signed by mentally competent adult patients 18 years old or older. The physician should explain the procedure to the patient in sufficient detail before the procedure so that the patient understands the risks, benefits, alternatives, downtime and potential side effects associated with the treatment.

While written consent should be obtained prior to procedures, they do not necessarily protect the physician from a malpractice action. It only protects against an action for lack of informed consent, he said.

Written consent forms are not designed to be updated documents. They should be updated as more is learned about complications associated with dermatologic medical devices.

“Written consent forms should reflect changes in the risks and benefits of existing treatments. As new treatments are developed these forms need to include the reported risks and benefits associated with that procedure,” Dr. Avram said.

NON-PHYSICIAN COMPLAINTS

Lawsuits increasingly stem from non-physicians performing procedures. Today, injuries are most often associated with non-physicians performing laser and light-based procedures. “The least common scenario for a lawsuit arises from the physician himself providing treatment. The most common scenario is when a non-physician conducts treatment without any supervision at all. A more frequent situation is when a non-physician performs therapy under the supervision of a physician,” he said.

The degree of training the technician has for operating laser or light sources is a key factor in whether a lawsuit will ensue, Dr. Avram said. “It is very important for the practice to understand the devices and treatments being employed,” he said.

For laser and light sources, often the best strategy to avoid complications is to understand the treatment clinical endpoints. Dr. Avram suggests looking for changes on the skin that indicate a safe treatment or one that may suggest the potential for complications.

The most common lawsuit for light-based treatments is for laser hair removal, in part, because laser hair removal is the most popular laser procedure in all of medicine, he said.

Skin rejuvenation represents the second most common lawsuit. “This mostly involves intense pulse light (IPL) devices. It is important for physicians to realize that while IPL devices are extremely effective, they are appropriate in only certain skin types and in patients who do not have tans,” Dr. Avram said.

DON’T INVITE PROBLEMS

It is imperative for physicians to know who is legally authorized to operate laser and light therapies, and other medical equipment. This is mandated by state law, which differs from state to state.

1. In treating broken blood vessels, two signs of an effective treatment are immediate vessel clearance and a transient black and blue appearance of vessels. “Graying immediately after treatment indicates that the device settings are too strong,” Dr. Avram says.

2. For tattoos or pigmented lesions, the appropriate clinical endpoint is epidermal whitening in contrast to epidermal splatter.

3. In laser hair removal, effective treatment is usually marked by perifollicular erythema.

Device data: Study examines complications associated with noninvasive body contouring devices

have experienced certain illnesses after treatment does not imply causation. It seems obvious, but it is important to carefully assess all of the information reported and for individuals to make their own judgments regarding the association between the treatment and the claimed adverse event,” Dr. Wulkan said.

1060-NM DIODE HYPERTHERMIC LASER LIPOLOGY

For 1060-NM diode hyperthermic laser lipolysis — which is used for non-invasive body contouring — adverse events included five cases of burn or blister, four cases of nodules, three cases of pain, two cases of cellulitis or an abscess, and one patient each reported excessive swelling, neuropathy and vomiting.

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There were nine cases of a burn or blister, two cases of subcutaneous nodules and one reported excoriations (scratches).

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Two patients reported festoons associated with this minimally invasive procedure for cellulite. One patient reported a case each of seroma, laceration and nodule.

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### ADVERTISER PRODUCT WEBSITE PAGES

<table>
<thead>
<tr>
<th>ADVERTISER</th>
<th>PRODUCT</th>
<th>WEBSITE</th>
<th>PAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEIERSDORF</td>
<td>AQUAPHOR HEALING OINTMENT</td>
<td><a href="http://www.aquaphorus.com">www.aquaphorus.com</a></td>
<td>39</td>
</tr>
<tr>
<td>BEIERSDORF</td>
<td>ADVANCED REPAIR</td>
<td><a href="http://www.eucerinus.com">www.eucerinus.com</a></td>
<td>47</td>
</tr>
<tr>
<td>CELGENE CORPORATION</td>
<td>OTEZLA</td>
<td><a href="http://www.celgene.com">www.celgene.com</a></td>
<td>25 - 28</td>
</tr>
<tr>
<td>INDUCTION THERAPIES</td>
<td>COLLAGEN P.I.N</td>
<td><a href="http://www.inductiontherapies.com">www.inductiontherapies.com</a></td>
<td>57</td>
</tr>
<tr>
<td>ENCORE DERMATOLOGY</td>
<td>IMPOYZ</td>
<td><a href="http://www.encorederm.com">www.encorederm.com</a></td>
<td>15 - 16</td>
</tr>
<tr>
<td>JANSSEN BIOTECH</td>
<td>TREMFYA</td>
<td><a href="http://www.tremfyahcp.com">www.tremfyahcp.com</a></td>
<td>50a - 50d</td>
</tr>
<tr>
<td>MEDICAL TECHNOLOGY INDUSTRIES</td>
<td>830 QUAD-POWER PROCEDURE CHAIR w/SmartTech™</td>
<td><a href="http://www.mtl.net">www.mtl.net</a></td>
<td>49</td>
</tr>
<tr>
<td>MIDMARK</td>
<td>MIDMARK</td>
<td><a href="http://www.midmark.com">www.midmark.com</a></td>
<td>73</td>
</tr>
<tr>
<td>ORTHO DERMATOLOGICS, LLC.</td>
<td>CORPORATE</td>
<td><a href="http://www.ortho-dermatologics.com">www.ortho-dermatologics.com</a></td>
<td>19</td>
</tr>
<tr>
<td>ORTHO DERMATOLOGICS, LLC.</td>
<td>DUOBRII</td>
<td><a href="http://www.ortho-dermatologics.com">www.ortho-dermatologics.com</a></td>
<td>Back cover</td>
</tr>
<tr>
<td>ORTHO DERMATOLOGICS, LLC.</td>
<td>ONEXTON</td>
<td><a href="http://www.ortho-dermatologics.com">www.ortho-dermatologics.com</a></td>
<td>31 - 32</td>
</tr>
<tr>
<td>ORTHO DERMATOLOGICS, LLC.</td>
<td>RETIN A MICRO</td>
<td><a href="http://www.ortho-dermatologics.com">www.ortho-dermatologics.com</a></td>
<td>59 - 60</td>
</tr>
<tr>
<td>SINCLAIR</td>
<td>INSTALIFT</td>
<td><a href="http://www.Instalift.com">www.Instalift.com</a></td>
<td>55</td>
</tr>
<tr>
<td>SYNERON CANDELA</td>
<td>GENTLE</td>
<td><a href="http://www.syneron-candela.com">www.syneron-candela.com</a></td>
<td>9</td>
</tr>
<tr>
<td>SYNERON CANDELA</td>
<td>PICOWAY</td>
<td><a href="http://www.syneron-candela.com">www.syneron-candela.com</a></td>
<td>53</td>
</tr>
<tr>
<td>TARO PHARMA</td>
<td>TOPICORT SPRAY</td>
<td><a href="http://www.topicortspray.com">www.topicortspray.com</a></td>
<td>63</td>
</tr>
</tbody>
</table>

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A Pre-moistened wipes clear away impurities, oil

CLEANSING WIPES by SUZANOBAGIMD are pre-moistened textured wipes containing anti-oxidants, aloë polyphenols, citrus bioflavonoids and brassica sulforaphane. The wipes are part of the SUZANOBAGIMD skincare line, which is aimed at anti-aging and skin rejuvenation. The wipes are hypoallergenic, paraben-free and safe for use in conjunction with all of the other Obagi products and systems. The wipes were developed with collaboration from dermatologist and cosmetic surgeon Suzan Obagi, M.D., the 2018 president of the American Academy of Cosmetic Surgery.

FOR MORE INFORMATION: https://www.obagi.com/patients/products-line/suzanobagimd/cleansing-wipes

B Full-spectrum laser solutions

SENSUS HEALTHCARE recently announced the launch of Sensus Laser Systems, a unique multi-platform line of high-quality, cost-effective dermatological lasers that include applications for hair and tattoo removal, acne lesion correction, skin rejuvenation and pigmentation / large pore treatment.

The three systems include a Fractional CO2 laser, an intense-pulsed-light system, and a Q-Switched ND:YAG. Sensus Laser Systems are aimed at anti-aging and skin rejuvenation, giving immediate and long-lasting coverage. It can be used with or without makeup. The primer is free of fragrances, oils, silicones and parabens, and is safe for use on sensitive skin.

FOR MORE INFORMATION: https://www.sensushealthcare.com/

C Primer with sunscreen fights signs of skin aging

ANTHELIOS 50 Daily Anti-Aging Primer with Sunscreen uses aerogel technology to establish a smooth matte finish on the skin that is resistant to sweat and allows for even application of makeup. This UVA/UVB formulation contains La Roche-Posay’s Cell-OX Shield and antioxidants to prevent signs of skin aging.

The SPF 50 primer uses a blend of light-reflecting microparticles to help correct pores, lines and other skin imperfections, giving immediate and long-lasting coverage. It can be used with or without makeup. The primer is free of fragrances, oils, silicones and parabens, and is safe for use on sensitive skin.

FOR MORE INFORMATION: https://www.laroche-posay.us/

D Multidimensional body contouring system

THE TRUSCULPT 3D by Cutera offers a noninvasive treatment option for body contouring, using a patented handpiece design to provide uniform heat to targeted areas. A precise delivery and real-time temperature monitoring helps to ensure greater patient comfort and safety with fast, effective outcomes.

Two handpiece options are available: a 40 cm² handpiece is best suited for larger treatment areas, such as the abdomen and flanks, while the 16 cm² option is ideal for petite patients, small treatment areas or parts of the body that are anatomically difficult to treat.

TruSculpt has received FDA 510(k) clearance for deep tissue healing and temporary improvement in cellulite appearance.

FOR MORE INFORMATION: http://cutera.com/home.aspx

E Miracle fruit seed oil reduces hair breakage

A STUDY reported in the Journal of Clinical and Aesthetic Dermatology indicated that a hair oil containing miracle fruit seed oil could reduce hair breakage better than vehicle or argan oil. Sixty-nine healthy, long-haired women between 19 and 63 years old with excessive hair breakage were randomly assigned to receive miracle fruit seed oil, vehicle or argan oil. Researchers took measurements of hair length, diameter and mass at baseline, four months and eight months. The group using the miracle fruit seed oil had a 103.6% and 215.7% improvement in Healthy Hair Index 75 calculations, expressed as percent change from baseline to month four and from baseline to month eight. The index levels were significantly higher compared with the vehicle and argan oil groups.

FOR MORE INFORMATION: www.miraclefruitoil.com
BE PREPARED

☐ Check your state’s rules and regulations. In some states, only physicians are authorized to operate the devices. Other states allow non-medically qualified staff to operate the equipment under supervision, but that, too, differs from state to state.

☐ User training is necessary prior to the launch. Follow-up training may be needed for updated and new uses.

☐ Unexpected maintenance issues may lead to downtime and, thus, lost revenue and unplanned expenses.

☐ Strive to provide good service. If patients experience disappointing results, it may affect the reputation of your practice.

SELECTING A LASER

☐ Start small. Two lasers may be enough to launch laser technology services.

☐ In selecting a laser, consider laser treatments that are popular.

☐ Select lasers aligned with the needs of the local population. Treatments for wrinkles, redness and sun damage are most popular.

☐ Some laser devices have more than one function, but these are generally more expensive.

☐ Platform machines are a good option for a first-time purchase. They are more portable and usually have one strong feature.

☐ First-generation lasers that perform multiple services may require fewer service contracts and engineering visits, but if this is your one and only machine and it breaks down, the practice may lose potential revenue.

PRACTICAL CONSIDERATIONS

☐ Will the new equipment fit in the office? Will it fit through the door? The initial installation may require building construction to accommodate the new equipment.

☐ Do you need a mobile or stationary machine? Some are so big, they’re really not designed to be moved between rooms.

☐ Will it be covered by your existing building insurance?

☐ Electrical power supplies may need to be upgraded to accommodate the new equipment.

☐ Lasers give off a lot of heat, so the air-conditioning system needs of each room must be considered, otherwise the laser may overheat and shutdown.

☐ Shipping costs can be considerable.

☐ Is sales tax included in the price?

☐ Some laser purchases require supplemental machine purchases, such as a vacuum for hair removal or protective equipment for radiation.

☐ Make sure the company representative attends the installation in case there are teething problems.

PURCHASE OPTIONS

☐ Short-term in-office trials

☐ Leasing (better option for first-time users, but be wary of hidden costs in variable interest rates, maintenance and equipment updates)

☐ Purchase outright (not recommended for first-time users)

Most devices come with a one-year warranty, which is usually cheaper to extend upfront.

REFERENCE:
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