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Introduction

The number of aesthetic dermatology procedures carried out in the United States each year continues to increase. In 2013, more than 11 million surgical and nonsurgical cosmetic procedures were carried out in the United States with total associated costs of more than $12 billion, $5 billion of which was spent on nonsurgical procedures.[1]

Nonsurgical cosmetic dermatology encompasses a variety of procedures known to be safe and effective. These procedures, including therapy with energy-based devices, neurotoxins, and dermal fillers, are increasingly utilized in combination approaches to improve outcomes. Although there is no national registry of procedures or efforts to promote the gathering of data on aesthetic procedures, a recent prospective cohort study (n=20,339 cosmetic procedures) evaluated the total incidence of procedure-related adverse events and found that such adverse events occurred in less than one percent of all cosmetic patients and most of these were minor and transient.[2]

During the 2015 Aesthetic & Medical Dermatology Symposia in Coeur d'Alene, Idaho, six dermatology thought leaders convened for a roundtable meeting to discuss aesthetic treatments in dermatology. The primary objective of this meeting was to bring together a panel of experts in aesthetics to discuss a number of topics, including how to make an initial assessment of a prospective cosmetic dermatology patient; managing patient expectations; and selecting treatments based on lost volume, skin laxity, and fine lines and wrinkles. Fine lines around the lips, loss of border around the lips, and deflation or volume loss in the lips were also covered. Additionally, the panel discussed selecting products, combination therapy, aesthetic dermatology for the HIV patient, and psychosocial aspects of aesthetic dermatology.

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Aesthetic Dermatologic Treatments

Consensus from the Experts

Initial Assessment of a Prospective Cosmetic Dermatology Patient

When a patient first seeks information about aesthetic procedures from a dermatology clinic, certain key steps may facilitate the initial consultation. These steps may often be outlined in a questionnaire filled out by the patient during the first visit. This questionnaire lists topics about which the patient might wish to know more, such as correcting wrinkles, repairing pigmentation problems, hair removal, lifting, and skin tightening. The questionnaire should also capture the patient's medical history; medications; and significant health history, including previous skin cancer, prior dermatologic surgeries, and history of psoriasis, eczema, or acne. Collecting this information prior to the first consultation can save time and streamline the patient's course of treatment.

By giving the patient a mirror during the initial visit, much can be determined by asking the simple question: "If you had a magic eraser, what would you like to erase?" This non-threatening technique transitions the discussion from vague and nonspecific wishes ("I want to look better") to highlighting specific concerns. The dermatologist should be patient during this exercise, as some patients will express multiple points of concern. The dermatologist should also inquire about prior aesthetic procedures, including the use of fillers or toxins.

In these first consultations, the dermatologist must be both probing and empathetic. Many patients, particularly older ones, are ashamed that they look older than their peers, but may be too embarrassed to talk about it directly. Others may believe that concerns about their appearance are vain and frivolous. Many of these patients do not know the range and versatility of aesthetic outpatient procedures offered today and may have the erroneous impression that there is nothing that can be done to address their concerns.

While it is important to listen to the patient's ideas about what should be treated and how, the dermatologist should keep the focus on the patient's concerns rather than on the exact treatment options the patient might suggest. For example, does the patient want to look younger and more glamorous, or does the patient just want to get rid of brown spots? Does she want her eyes to look less tired or does she want to turn heads at the next reunion? The dermatologist must take time to discuss with the patient the realistic expectations for the results of particular treatments. For instance, a patient may complain about prominent nasolabial folds and request that specific treatment. If the dermatologist can ascertain that her goal is to look younger, the clinician could explain that while nasolabial folds can be repaired, the end result would not result in a more youthful appearance, but correcting the underlying problems (loss of volume, scaffolding) could—even if the nasolabial folds are still present.

Many patients will express concern about several areas on the face. Prioritizing these can be done by having the dermatologist ask a question along these lines: "If you could fix only one thing today, what would it be?" This may not dictate the order of what is treated, but it can help the dermatologist better understand the patient's relative priorities. Based on that, the dermatologist can work up a reasonable sequence of procedures.

Patients seeking treatment for lines and wrinkles may not be aware what can be fixed and how this can be accomplished. With the patient looking in a mirror with the face relaxed, the dermatologist can explain that all wrinkles and fine lines evident now can be treated with fillers. Next, the patient should be asked to frown, raise the eyebrows, or purse the lips and may then be informed that these lines are more effectively treated with neurotoxins than fillers. Aging patients should also be told that skin quality deteriorates with aging and resurfacing may be necessary in addition to other procedures in order to assure optimal results.

While patients will typically point out the end results of aging ("fix these marionette lines" or "get rid of these wrinkles around my eyes"), the dermatologist should educate the patient to think in terms of what is causing the problem rather than how the problem manifests itself. For instance, sagging skin is typically caused by loss of

volume, so the appropriate treatment is volume augmentation. The dermatologist or staff should then educate the patient as to appropriate treatment options and associated risks and benefits.

The Aging Face

Advancing age results in anatomical changes that alter facial appearance, primarily in the lower third of the face. With aging comes ptosis of the labial commissure, increased mentolabial sulcus, the emerging of so-called "marionette lines," and changes in the relative relationship between the jawline and neck. Aging plus sun exposure also results in increased fine lines and wrinkles.

Following the initial assessment of an aging patient presenting for cosmetic repair, the dermatologist must initially evaluate the skin's overall health and appearance. Resurfacing might be considered if there are pigmentation problems, such as brown or red spots. Surgery or laser resurfacing might be useful to address fine lines and wrinkles, which may also be amenable to treating with neurotoxins. Because of age-associated facial remodeling, space-occupying fillers may be appropriate to compensate for loss of bony mass and collagen. In any initial assessment, the dermatologist should also be aware of acne, acne scars, spider veins, and rosacea. Patients may present with a specific issue, but the dermatologist may also discuss other potential treatment areas, such as lip augmentation. Finally, the initial presentation should conclude with a discussion of skin health, sun protection, and the risks and benefits associated with any potential treatments.

The aging patient is becoming the norm for cosmetic dermatology. In a single-center, prospective study of 72 patients seeking minimally invasive outpatient cosmetic procedures, the average patient was 47.8 years old and one-third had experienced a "major life event" within the preceding year.[3] Of course, cosmetic procedures may be undertaken to achieve different objectives even among a specific age demographic. The goal of cosmetic procedures for older patients may not be to enhance beauty, but instead to correct something about their appearance that distresses them. Older patients who undergo one successful cosmetic outpatient procedure may seek to address other issues in subsequent procedures. With cosmetic dermatology, success begets success.

In this context, it should be noted that many aging patients suffer from hair loss as well as skin problems. In certain cases, a patient may seek a facial procedure in an effort to compensate for thinning hair. Further, patients may be reticent to talk about insecurities in their appearance for any number of reasons. The dermatologist should address all issues frankly in an effort to find the best solution for the individual patient, including talking about hair loss.

Managing Patient Expectations

American healthcare consumers are at the same time both aging and youth-oriented. The proliferation of fast, safe, easy, minimally invasive, and effective aesthetic procedures has led to the belief in some patients that a youthful appearance might be maintained indefinitely, and that all age-related skin problems have a fast fix. While these procedures have excellent safety profiles when carried out by properly trained providers, they—like any procedure—are not without risks.[4,5] Consequently, dermatologists must make sure that patients understand risk, benefits, and potential limitations of aesthetic procedures.[6] Many patients have heard about "miracle treatments" in the media or from their friends, and it is important that they have a realistic understanding of these procedures and know that not all procedures are appropriate for every patient.

The treating dermatologist must determine what the patient actually wants and, as nearly as possible, match treatments to meet the patient's goals. Patients may request specific procedures that are not the optimal choice for their unique requirements. Further, patients must be made aware of the risks of certain procedures and their degree of comfort with that risk. In other words, two similar patients with the same complaint may decide on two entirely different courses of treatment based on risk tolerance.

Working in concert with the patient, the dermatologist should develop a treatment plan. It can be a very positive and reinforcing experience for the patient if at least a portion of that treatment is carried out that same day. A rapid start to meeting the patient's goals may enhance the patient's confidence that their problems can be adequately addressed and may encourage them to continue treatments. Many patients will build up confidence in aesthetic procedures when they quickly see good results.

Selecting Treatments

The wealth of aesthetic treatment options provides great benefit to patients, but the dermatology staff may need to educate patients on the variety of treatments and techniques available.

Lost volume. Hollowed appearance is a frequent complaint for older patients and can be supplemented by the use of fillers. This biometric volume loss may be addressed with a variety of fillers available today. Collagen-stimulating fillers, such as injectable poly-L-lactic acid (Sculptra® Aesthetic, Galderma, Fort Worth, Texas) can be used to replace lost volume and correct shallow to deep nasolabial fold contour deficiencies and other types of facial wrinkles.

Skin laxity. Lax or sagging skin may be tightened with radiofrequency (RF) devices, microfocused ultrasound therapy (MFUS), or more invasive surgical lifts.

Fine lines and wrinkles. Neurotoxin injections can be used to help smooth out fine lines, especially those of the upper face including the forehead, glabella, and around the eyes. Patients are less enthusiastic today about more aggressive and invasive laser resurfacing because other more convenient options are available with less downtime, such as fractional semi-ablative and nonablative laser treatments.

Lips. Older patients often have perioral concerns including fine lines around the lips, loss of border around the lips, and deflation or volume loss in the lip. Hyaluronic acid (HA) injections can improve the lips, but it is important to address perioral filling as well as the lips themselves. Overfilled or "duck lips" are generally the result of improper perioral filling rather than excessive filling of the lips. HA is an appropriate injectable lip filler, and specific products (Restylane®; Restylane® Silk®, Galderma) may provide a crisper, firmer line with sharper definition; in essence, restoring the size, shape, and contour of aging lips. While perioral filling as well as lip filling are important for older patients, certain younger patients may benefit from lip augmentation to enhance their natural features.

It is important to differentiate older patients who had good lips to begin with and are only addressing the normal aging processes versus patients who had cosmetic deficiencies in their lips that are now being addressed along with aging. Some older patients seek treatment solely for fine vertical lines around the lips, but can sometimes be amenable to the judicious use of fillers when properly educated. For those with pleasingly shaped lips who require some added volume, certain soft products (Silk) offer a pleasant natural look. In addition to fillers, neurotoxins can also help eliminate fine vertical lip lines and enhance vermillion show. When treating, it is important to discuss with the patient the implications of neurotoxin treatment of the orbicularis oris muscle. Those who are professional speakers, vocalists, or musicians may find the reduction of fine motor control around the mouth to be detrimental to their profession.

For optimal patient satisfaction, the lips should be kept soft and natural-looking. A hard look and feel to the lips may be unacceptable to most patients, even if they look perfect visually. Of course, the dermatologist must recognize that the patient's aesthetic sense can be different than his own and may even be extreme or unusual. There are occasional patients, particularly young, fashion-forward patients, who seek harder, larger, sharper, even "overdone" lips. However, for most patients, soft natural-looking lips are the most desired outcome, so the softest filler with the most natural look-and-feel should be selected. Remember, lips have a great range of dynamic movement and are the most active area of the face. Thus, optimal results usually involve maintaining a natural, soft, supple lip.

When filling a patient's lips, it is important to view the patient's face overall. Petite patients with small faces need less filler than patients with larger faces, even if their lips are relatively similar. Most patients require two or more syringes of filler, but the dermatologist should start treatment with one syringe and assess the results. Patients, particularly new patients, need to acclimate to the "new" look of their lips and may be overwhelmed if the results are too dramatic, even if properly done.

Dermatologists must be cognizant of ethnic differences in facial structures, such as the well-described "Caucasian corners" on lips that can develop into marionette lines. The size, shape, and fullness of lips vary widely among ethnicities and should be discussed in advance with the patient to be sure the desired outcome is achieved. A recently published article on lip enhancement with dermal fillers with respect to lip fullness and shape assessment in different ethnicities offers an excellent review.[7]

Selecting Products

Proper product selection must be based on the needs of the individual patient. The dermatologist must consider the skin quality, volume loss, mobility, extent of deficiency, skin texture, and skin thickness. Beyond that, the dermatologist and patient must determine whether they seek immediate gratification, progressive long-term results, or how to best compromise to achieve both goals. Most fillers will stimulate collagen production, but if a patient needs a significant amount of volume, the dermatologist should consider the use of a specific product, such as Radiesse® (Merz), Voluma® , (Allergan), or Lyft® (Galderma), all of which work well in patients with mid-face volume loss. It is not unusual to use multiple products on a single patient, and different products may be appropriate to address the same concern in different areas of the face. Products that provide a dramatic, immediate effect (the "wow effect") can boost patient satisfaction and may build confidence in the patient for subsequent procedures. Generally, these products are defined as volume replacement with immediate effect.

In some cases, dermatology patients may wish to develop their aesthetic improvement progressively, rather than immediately. For example, Sculptra Aesthetic, a dermal filler that works exclusively through neocollagenesis, provides excellent "global volume restoration" and may be even used in lean patients who are too depleted for space-occupying fillers. In this way, Sculptra Aesthetic as a stimulatory filler is a good alternative to traditional "volume replacement" fillers, which would be too expensive and difficult to use as a scaffold in some patients. The dermatology team should

TABLE 1. Pearls for cosmetic dermatology
Encourage the patient to talk and get information from you—be open and positive to his/her questions.
If you are using HA filler, inject a little leftover filler into the apex of the cheeks; the patient may be impressed that such a small amount will make a big difference.
Even dermatologists who do not do cosmetic procedures should know about what is available and what is possible, since patients ask about them regularly.
Dermatologists who do not do cosmetic procedures should become comfortable making referrals to local specialists.
Many people who ask for cosmetic procedures are psychologically impacted by their appearance—be positive and not judgmental.
Cosmetic dermatology is usually a means of improving your patient's self-confidence, quality of life, and psychological status rather than feeding their vanity.
Make sure your patients are educated about the treatment options and have realistic expectations.

be prepared to discuss specific products, mechanisms of action, duration, durability, and cost with their patients.

For fine lines and wrinkles, an injectable HA product suitable to more superficial placement is recommended, such as Belotero (Merz), Juvederm (Allergan), and Restylane. Most patients seeking wrinkle treatments want softer, natural-looking results rather than hard or extreme filling. As a general rule of thumb, patients over age 50 should start with a thicker product that provides lifting and volumizing of the upper lateral cheek. Then central lines can be re-evaluated and treated, if necessary, with Belotero, Restylane, or Juvederm, for finesse work. Lateral lift will improve the jawline and the under-eye area, particularly the tear trough, and can usually be effectively treated with HA injectables.

Combination Therapy

Both microfocused ultrasound (MFUS) (Ulthera, Merz) and radiofrequency (RF) (Various, Thermage®, Solta) are often used to treat cutaneous sagging in the face, wrinkling, and marionette lines. When combined with an HA filler product, the results may be more satisfactory than either therapeutic approach alone.[8,9] Both MFUS and RF energy are known to cause fibroblast proliferation and form new collagen.[10] Fillers may typically precede or follow laser or energy-device treatments.

Lips in particular often require a combination approach with fillers (both into the lips and periorally) supplemented by neurotoxins to enhance vermillion show and reduce fine vertical lines, plus the addition of resurfacing, such as fractional laser treatments (e.g., Fraxel®, Solta). When using combination therapy on the lips, neurotoxin or dermal fillers may be used at the same time, separately in either order, or separated by several weeks. Moreover, toxin will substantially reduce muscle movement and may allow the filler to provide longer filler duration.

Aesthetic Dermatology for the HIV Patient

Patients with the human immunodeficiency virus (HIV) may experience highly active antiretroviral-therapy (HAART) associated facial lipoatrophy,[11] which in some cases may be effectively addressed with injectable facial rejuvenators. Such interventions offer durable results and can improve quality of life.[12] In a study of 82 HIV patients with facial lipoatrophy treated with poly-L-lactic acid (Sculptra), significant increases in their total subcutaneous thickness of dermal collagen were observable on magnetic resonance imaging (MRI) at one year following treatment.[13] However, many newer types of treatments and combination therapies are less well-studied in this population. Certain products are known to work well in this population, such as Sculptra, and there may be a synergistic aesthetic benefit when this filler is combined with energy-device therapy.

Psychosocial Aspects of Aesthetic Dermatology

In a systematic literature review of surgical and minimally invasive facial cosmetic procedures, most studies could confirm that cosmetic improvements confer a modest improvement in psychosocial functioning, including such things as quality of life, self-esteem, and improved body image.[14] While the psychosocial benefits of cosmetic dermatology are clear, patients may be reluctant to discuss their concerns with the dermatologist or reticent to share all goals. In the first one to three visits, the dermatologist should try to steer the conversation so that the patient can ask open-ended questions, such as "What else can I do?" or "How can I get rid of these fine lines?" or "What would you recommend for my lips?"

An effective approach to these types of aesthetic patient queries is reviewed by Fried et al in the "STEP" approach, where S = Stress what can and what cannot be done with minimally invasive aesthetic dermatology treatments; T = Target specific areas of patient concern; E = Envision what the effect of the aesthetic outcome would be like to the patient; P = Preframe the patient as to the expected outcome.[15]

Pearls for treatment from the expert panel appear in Table 1.

Conclusion

Cosmetic dermatology is increasingly requested by our aging population and the wealth of new products and minimally and noninvasive treatment options makes these outpatient procedures more and more appealing. An excellent arsenal of products is available with more in the pipeline. When doing overall facial rejuvenation, emphasis should be placed on the perioral area. Lip enhancement and augmentation as well as treatment of vertical fine lines can be well-managed using combination therapy, even in older patients.

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