

Facial Rejuvenation in Skin of Color

Andrew F. Alexis, MD, MPH

The desire to age gracefully is universal. Because the face is the most conspicuous part of the body and typically reveals telltale signs of skin aging, facial rejuvenation is one of the most popular concerns addressed by cosmetic dermatologists and plastic surgeons. Until the past decade the literature on aesthetic and antiaging concerns was largely limited to those observed in individuals of European ancestry and with lightly pigmented skin. However, with increasing diversity of the global population and the US population, there is increased interest in performing cosmetic dermatologic procedures on individuals with darker skin and from different racial and ethnic groups (or skin of color). According to the American Society of Aesthetic Plastic Surgery, approximately 22% of the cosmetic procedures performed in 2009 were on racial/ethnic minorities (8.9% Hispanic, 6.2% African American, 4.4% Asian descent, 2.6% other non-Caucasian race/ethnicity).¹ This proportion is likely to increase further, given demographic trends and the growing availability of safe and effective treatment options for skin of color. This article will review the leading skin aging concerns in patients with skin of color and provide useful treatment options for each concern.

Photoaging in Skin of Color

Due to the increased amounts of melanin in skin of color and its photoprotective effects, signs of photoaging in skin of color tend to be less pronounced and have a later age of onset. In one study, 5 times more UVA and UVB radiation reached the upper dermis of Caucasian skin compared to that observed in African American skin.² In more recent studies, UV-induced apoptosis was shown to be greater in the epidermis of darker skin compared

to light skin, suggesting that photodamaged cells may be removed more efficiently in darkly pigmented skin.^{3,4} These functional features of darker skin likely contribute to differences in the severity and onset of photoaging in individuals with skin of color.

Common features of photoaging in skin of color include fine wrinkling (less marked than in fair skin), dyschromias, skin laxity, and textural changes.⁵ With less severe extrinsic aging, signs of intrinsic aging, such as volume loss, tend to be more pronounced, especially in the midface with resultant increased prominence of the nasolabial folds. Benign neoplasms, such as facial seborrheic keratoses, particularly in people of East Asian descent, and dermatosis papulosa nigra (DPN), primarily in people of African descent, also are observed with increasing age in patients with skin of color.⁵

Common Skin Aging Concerns in Patients with Skin of Color

Textural Changes

Prominent or enlarged pores, dullness, and roughness are common textural concerns seen more commonly after the fifth decade and are a leading aesthetic concern among patients with skin of color (especially African Americans in this author's experience). Treatment options include topical retinoids, superficial chemical peels (primarily salicylic acid⁶ and glycolic acid), and nonablative photorejuvenation.⁵ These same treatment modalities also can be used to address fine wrinkling. At the Skin of Color Center in New York City, salicylic acid 20% or 30% are the chemical peels of choice for the above concerns, while the microsecond-pulsed Nd:YAG and the 1550-nm Erbium-doped fractional laser are the most frequently used lasers for photorejuvenation. When using fractional lasers in Fitzpatrick skin types IV through VI, pretreatment with hydroquinone cream 4% for at least 2 weeks (typically 4 weeks) and conservative treatment densities (microthermal zones/cm²) are recommended to reduce the risk of posttreatment hyperpigmentation.

Facial Seborrheic Keratoses/DPN

The development of flat seborrheic keratoses on the face is a common feature of skin aging in people of East Asian descent. A study of 407 Koreans found facial seborrheic

Dr. Alexis is Director, Skin of Color Center, St. Luke's-Roosevelt Hospital Center, New York, New York, and Assistant Clinical Professor, Columbia University College of Physicians & Surgeons, New York.

Dr. Alexis is a participant in an investigator-initiated study at Solta Medical.

Correspondence: Andrew F. Alexis, MD, MPH, Department of Dermatology, St. Luke's-Roosevelt Hospital, 1090 Amsterdam Ave, Ste 11B, New York, NY 10025 (andrew.alexis@columbia.edu).

keratoses to be more common in men aged 60 years and older than in women aged 60 years and older.⁷ In individuals of African descent, especially African Americans, DPN is a common feature of facial skin that increases with age. Dermatitis papulosa nigra lesions are small, brown, keratotic papules that are either flat or pedunculated and typically range from 1 to 3 mm in diameter. Flat lesions are best removed by light electrodesiccation while pedunculated lesions can be excised with grapple or iris scissors. Lasers also have been used effectively in the treatment of DPN.⁸⁻¹¹ When performing electrodesiccation, special attention must be placed on avoiding sublesional and perilesional epidermal injury, which has the potential to result in postinflammatory hyperpigmentation. For lesions 1 mm in diameter or smaller, an epilating needle can be used. It is my preference not to curette the lesions postelectrodesiccation, instead leaving them to fall off spontaneously, in order to avoid potential epidermal injury from curettage.

Laxity

Modalities used for the nonsurgical treatment of skin laxity, such as radiofrequency (Thermage, Solta Medical), infrared light (Cutera Titan, Cutera, Inc), and combined radiofrequency and infrared light (ReFirme, Syneron), are generally safe in darker skin types and as such, are useful treatment options for this population. Nevertheless, it is important to employ optimal technique to avoid epidermal injury, which could lead to long-standing dyschromia. Thermal injuries can occur when there is inadequate contact with the handpiece or when there is excessive bulk heating. These thermal injuries tend to result in hypo- and/or hyperpigmentation that can last for more than 6 months. Therefore, careful technique is paramount.

Dynamic Rhytides

Dynamic rhytides, particularly on the forehead, are a concern across the racial/ethnic spectrum. Treatment with botulinum neurotoxin type A has been studied in multiple populations with skin of color and no racial/ethnic safety differences have been reported.¹²⁻¹⁴ Interestingly, in one study¹⁴ evaluating AbobotulinumtoxinA in the treatment of glabellar lines, African American participants were found to have a slightly greater response and longer duration of action than Caucasians. This observation warrants further study. However, as a general rule, tailoring each treatment to a given patient's individual anatomy (rather than relying on broad generalizations about racial or ethnic facial features) is the best strategy to employ when injecting neurotoxins.

Prominent Nasolabial Folds

Deepening of the nasolabial folds is a common skin aging concern among individuals with skin of color. As such, an increasing number of patients with skin of color are seeking treatment with soft tissue fillers. Fortunately, there is considerable data to support the safety and efficacy of hyaluronic acid,¹⁵⁻¹⁷ calcium hydroxylapatite,¹⁸ and poly-L-lactic acid fillers¹⁹ in darker skin types. To date, there are no reports of keloids or hypertrophic scars following soft tissue filler injection in a patient with skin of color. Mild to moderate dyspigmentation has been reported and can last for up to 6 months in more severe cases.⁵ Given this risk, minimizing injury during injection of dermal fillers in skin of color is an important goal. The linear threading technique (versus serial puncture) is preferred to minimize the number of needle punctures. When injecting the nasolabial fold, this author prefers retrograde injection combined with fanning in the nasolabial triangle (at the superior and medial aspect of the nasolabial fold) to achieve a natural-looking correction with a low risk of postinflammatory hyperpigmentation.

Conclusion

The interplay of structural, functional, and cultural characteristics contributes to racial and ethnic variations in skin aging concerns. Given the increased risk of dyschromia and keloids in skin of color, minimizing epidermal and dermal injury is paramount when treating patients with Fitzpatrick skin types IV through VI. With appropriate treatment parameters and careful technique, a growing range of skin rejuvenation procedures can be performed safely and effectively in skin of color.

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