

Acne and Rosacea in Skin of Color

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Treatment of acne in skin of color poses unique challenges. Postinflammatory hyperpigmentation is a common complaint and must be addressed in this patient population. Although less common in skin of color, rosacea can often be more severe in this patient population. We will review acne and rosacea in patients with skin of color and will focus on management of the concerns unique to this patient population.

Regardless of skin color, acne remains the most commonly diagnosed dermatologic condition. Studies have reported an overall incidence as high as 29% in black patients, with similar figures for white patients in comparative studies.¹ In adult women alone, the prevalence may exceed 50%.²

Postinflammatory hyperpigmentation presents a unique but common challenge when treating acne in skin of color, and can often become a greater source of distress to the patient than the acne itself. Thus, when treating acne in patients with skin of color, one should always take a two-step approach by managing the inevitable consequence of postinflammatory hyperpigmentation.

Epidemiology of Acne in Skin of Color

Skin of color is defined clinically as Fitzpatrick skin types IV through VI. Reflecting a diverse cross section

of ethnicities, including African Americans, Asians, Hispanics/Latinos, Pacific Islanders, Middle Easterners, and Native Americans, patients with skin of color currently represent 34% of the US population. As it is estimated that this figure will rise to 47% by 2050, it is important to have a thorough understanding of how acne presents in this patient population in order to optimize their treatment.³

Clinical Characteristics

Papules are the most frequent presentation of acne in skin of color, occurring in 70.7% of African American patients and 74.5% of Hispanics/Latinos. Acne hyperpigmented maculae are also a common presenting feature, occurring in 65% of African Americans and in 48% of Hispanic/Latino women with acne, according to a recent study (Figure 1).^{4,5} Among African Americans, other common physical exam findings include comedo lesions in 46%, pustular lesions in 26%, and cystic lesions in 18%.⁶ While nodulocystic acne occurs less frequently in African Americans than in Caucasians, rates for Hispanics/Latinos are similar to those for Caucasians.⁴

Interestingly, histological evidence has shown that comedo lesions in black skin display a substantial amount of inflammation.⁷ This may account for the prominent hyperpigmentation seen clinically, as 65% of African American patients report hyperpigmentation compared to only 25% of Caucasians.⁷ Hyperpigmentation is often the primary concern of acne patients, as well as the most striking physical examination finding.

Treatment of Acne in Patients with Skin of Color

When treating acne in patients with skin of color, it is just as important to address hyperpigmentation because this is equally or more concerning to the patient. One must also recognize that common acne treatments may cause pigment changes in skin of color.

For example, hyperpigmentation can occur as a result of benzoyl peroxide use if the patient develops irritation. Approximately 1% to 5% of the population is sensitive to

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benzoyl peroxide,⁸ but many can tolerate benzoyl peroxide concentrations below 5%. Contrary to popular belief, benzoyl peroxide will not bleach the skin, and the risk for postinflammatory hypopigmentation is rare compared to the possibility of postinflammatory hyperpigmentation.

Postinflammatory hyperpigmentation may also occur following retinoid use in skin of color. This is more commonly associated with tretinoin and tazarotene, but may occasionally occur with adapalene. If present, it will typically occur within a month of use and resolve once the retinoid therapy is discontinued. Decreasing frequency of use or switching to a milder strength can address this rare side effect of topical retinoids in skin of color. Topical antibiotics are a useful, nonirritating adjunct in acne patients with skin of color. Topical dapsones represents a new class of topical antibiotics that has been effective in acne patients with skin of color.⁹

Minocycline can cause hyperpigmentation in skin of color. Clinically patients can present with facial darkening. Other presentations include darkening of lips, scars, and legs. Other antibiotics should be considered for first line therapy when treating acne in skin of color.

To treat hyperpigmentation itself, hydroquinone is the gold standard and is highly effective. Available over-the-counter in concentrations up to 2%, formulations of 4% to 10% are often needed to treat acne hyperpigmented maculae in patients with skin of color. Hydroquinone

can be combined with other treatment regimens or used on its own to treat postinflammatory hyperpigmentation. One common side effect of hydroquinone



Figure 1. Acne hyperpigmented maculae in an adult patient.

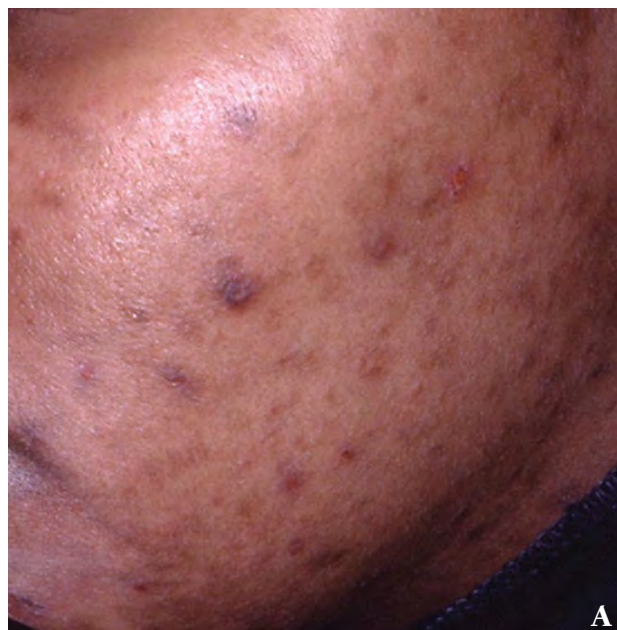


Figure 2. Acne hyperpigmentation maculae. Note the hydroquinone halo present around each treated area. Before (A). After treatment (B).

in skin of color is the hydroquinone halo, a circumferential halo of hypopigmentation surrounding the treated hyperpigmented maculae (Figure 2). This halo can be prevented by discrete application with a cotton-tipped applicator instead of a fingertip. In addition, applying a retinoid to the full face after spot treatment with hydroquinone will help to prevent this finding.

Other treatment options for acne hyperpigmentation include kojic acid, azelaic acid, tretinoin, fluorinated steroids, and a variety of natural therapies such as soy, licorice, vitamin C, niacinamide, N-acetylglucosamine, and photoprotective antioxidants. Chemical peels may also be used in conjunction with bleaching agents to induce desquamation and remove the superficial layer of stratum corneum. Jessner peel is well tolerated in darker skin types, as are superficial glycolic acid peels 20% to 30%. While caution must be exercised to time and neutralize higher concentration glycolic acid peels (50%–70%) in darker skin types, salicylic acid peels 20% to 30% do not need to be timed or neutralized. Due to their lipophilic qualities, salicylic acid peels are an excellent superficial peel to treat acne in patients with skin of color.

Although research in the field continues, the most effective model for treating hyperpigmentation continues to be variations of the Kligman formula. The original Kligman formula was tretinoin 0.1%, hydroquinone 5%, and dexamethasone 0.1% in hydrophilic ointment, and it has been proven that a combination of these 3 agents works synergistically to treat hyperpigmentation.¹⁰

Sunscreen is essential when treating acne in skin of color to prevent hyperpigmentation. Daily use of sunscreen with sun protection factor 30 should be emphasized as a critical component of the patient's acne regimen.¹¹

Rosacea in Patients with Skin of Color

Rosacea is an inflammatory condition affecting central areas of the face. With a variable presentation that may include flushing, nontransient erythema, papules and pustules, and/or telangiectasia, rosacea is likely underreported in patients with skin of color due to the masking effect of skin pigment.¹²

Epidemiology

Indeed, rosacea is a rare condition in patients with skin of color. While studies of Caucasian populations report an incidence of up to 10%, patients with skin of color, namely African Americans, Hispanics/Latinos, and Asians, represent only 4% of diagnoses.^{13,14}

Clinical Characteristics

Although the diagnosis of rosacea is infrequent in those with skin of color, patients from this population who present with rosacea tend to be more severe. African American and Caribbean American patients are most commonly diagnosed with the granulomatous variant, which presents with yellow, brown, or red nodules and papules in the malar, perioral, and periocular region. These patients may lack the erythema and flushing typically associated with rosacea, and severe cases may lead to scarring.¹⁵ Histologically, the granulomatous variant is characterized by perifollicular inflammation and non-caseating granulomas, and the differential diagnosis should include sarcoidosis and lupus miliaris disseminatus faciei until otherwise excluded.

Facial Afro-Caribbean childhood eruption syndrome is a dermatologic condition affecting prepubescent black children that can mimic the clinical skin findings of sarcoidosis. It is characterized clinically by monomorphic papules in a perioral, periorbital, and perinasal distribution. Biopsy findings include noncaseating granulomas and lymphocytic infiltrates.¹⁶ Also known as granulomatous periorificial dermatitis, facial Afro-Caribbean childhood eruption syndrome is now considered a variant of granulomatous rosacea.

Treatment of Rosacea in Skin of Color

Antibiotics are front-line therapy in managing rosacea in skin of color since most of these patients tend to present with greater severity. The benefit appears to be attributable to the anti-inflammatory effects of the antibiotics, as opposed to their antimicrobial activity.¹⁷ Oral tetracyclines are effective, and topical dapsone or metronidazole may be added for combination therapy.

Because of its inflammatory components, rosacea may cause postinflammatory hypo- or hyperpigmentation in patients with skin of color. Similar to the treatment of acne, the management of rosacea in patients with skin of color should also include symptomatic and preventative treatment of pigmentation abnormalities. Hydroquinone can be used but may cause irritation in sensitive rosacea patients. Other alternative skin lightening agents such as soy or licorice may be less irritating in rosacea patients with skin of color.

Conclusion

Management of acne and rosacea has additional challenges in skin of color. It is important to address the pigment abnormalities that are more common in these patients. Once addressed, successful management of acne in skin of color can be achieved.

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