

Rosacea in Patients With Skin of Color: Uncommon But Not Rare

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Rosacea often is considered a rare disorder in darker-skinned patient populations. The paucity of studies or published reports describing rosacea in patients with skin of color contributes to this impression, particularly in individuals of African descent (ie, black individuals, African Americans, Africans, Afro-Caribbeans). To date, based on a PubMed search of articles indexed for MEDLINE using the terms *rosacea and blacks*, *rosacea and race*, *rosacea and ethnic*, and *rosacea and ethnicity*, I have found 5 articles in the peer-reviewed literature on rosacea in black individuals, excluding review articles on acne and rosacea in skin of color: a 1935 report of 11,729 black patients with nonsyphilitic skin disease in which 9 cases of rosacea were identified¹; 2 individual case reports of rhinophyma in black men^{2,3}; a 1986 case series of 3 black men with ocular rosacea⁴; and a 1987 case series of 3 black men with rosacea (2 granulomatous and 1 papulopustular).⁵ Several clinic-based studies investigating the epidemiology of skin diseases in adult patients with skin of color have not reported rosacea among the most common diagnoses.⁶⁻¹⁰ However, from my experience as a dermatologist based at a New York City teaching hospital where I treat a large number of patients with darker skin types, I believe that although rosacea is less common in patients with skin of color, it is not rare and often goes unrecognized or misdiagnosed.

In my practice, the typical clinical presentation of a patient with rosacea and skin of color is a black woman with Fitzpatrick skin types IV to VI who has been previously diagnosed with adult acne. These patients, especially those who have not had a history of acne vulgaris in their 20s or 30s, often ask, "Why do I have acne at my age?" When

asked directly, these patients often report sensitivity, including burning or stinging, to multiple skin care products and a sensation of facial warmth (if not visible flushing) that occurs episodically, especially in response to typical rosacea trigger factors. Some of these patients have used the Internet to research their condition and come to the conclusion that they do not have rosacea due to its predilection for individuals with fair skin, which is represented in the clinical images and descriptions of rosacea found online. As a result, I am often faced with a confused and somewhat frustrated patient who has tried multiple topical therapies for acne vulgaris with unsatisfactory results, including frequent reports of not being able to tolerate previously tried topical regimens because of irritation. Moreover, many of these patients describe negative effects on self-esteem and relationships as well as other adverse psychosocial effects. Clinically, these patients typically present with papules and/or pustules, primarily on the central face, with varying degrees of erythema (Figure 1). The erythema may be subtle or not perceptible depending on the degree of constitutive skin pigmentation (Figure 2). An absence of comedones is a helpful clue to the diagnosis. The granulomatous variant also can be seen in patients with darker skin types (Figure 3). When it occurs in black individuals, I usually perform a biopsy to rule out sarcoidosis, given the higher prevalence in this population.

A few recent studies support my impression that rosacea in skin of color is more common than prior reports suggest.¹¹⁻¹⁷ A 5-year longitudinal cohort study of patients with rosacea enrolled in North Carolina Medicaid and prescribed at least 1 topical prescription product for rosacea found 16.27% of the patients to be African American and 10.98% of other race (N=2587).¹¹ A study involving 108 patients with rosacea in Sheffield, England, included 11 black patients, which was an unexpectedly high number according to the authors.¹² An Irish study of 1000 patients with papulopustular rosacea included 18 individuals with Fitzpatrick

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Figure 1. Rosacea in a black woman with Fitzpatrick skin type V.



Figure 2. Rosacea in a black woman with Fitzpatrick skin type VI. Papules and small pustules are present without appreciable erythema and there is an absence of comedones. She reported an episodic sensation of warmth on the face as well as stinging or burning from most topical agents she has used.



Figure 3. Granulomatous rosacea in a black woman. A 3-mm punch biopsy confirmed the diagnosis.

skin type IV, V, or VI (1.8%).¹³ In a clinical trial conducted in Puerto Rico involving 40 patients with rosacea, 28 patients were Hispanic, differentiated from 11 black patients and 1 white patient.¹⁴ There also are a number of published rosacea studies originating in Asia, including China, Korea, and Japan.¹⁵⁻¹⁷

Published clinical trials of rosacea therapies generally include small numbers of patients with skin of color; therefore, racial/ethnic comparisons in efficacy or safety are difficult to make.¹⁸⁻²⁰ Clinical experience suggests that notable racial/ethnic differences do not exist regarding therapeutic modalities except in the context of laser- or light-based therapies, with an increased risk for dyschromia in darker skin types. Unlike acne vulgaris with postinflammatory hyperpigmentation as a common feature in patients with skin of color that requires special attention, I rarely have seen postinflammatory hyperpigmentation secondary to rosacea, which may reflect differences in the severity of the inflammation or perhaps differences in the specific inflammatory mediators induced in both disorders. This hypothesis requires further investigation.

There have been exciting recent advances in our understanding of the pathogenesis of rosacea, including studies implicating alterations in the innate immune response.^{21,22} In particular, patients with rosacea were found to express increased levels of cathelicidin peptides that were different from those seen in individuals without rosacea.^{21,22} It would be of interest to investigate if there are racial/ethnic variations in factors involved in the innate immune response. One could speculate that if such variations exist, they may potentially contribute to differences in the epidemiology of rosacea.

Rosacea is less common but not rare in patients with skin of color. It should be considered in the differential diagnosis of all adult patients with acneform papules and pustules on the face, especially in the absence of comedones, including those patients with darker skin types. As erythema may be difficult to appreciate and telangiectases usually are not observed in highly pigmented skin, eliciting a history of exacerbating factors, sensitivity to multiple topical products, episodic warmth of the face (or flushing), and ocular symptoms is especially helpful in establishing the diagnosis in patients with skin of color. Without an index of suspicion, the diagnosis often can be missed and optimal treatment delayed. Further research into racial/ethnic differences in the epidemiology, pathogenesis, clinical presentation, and response to treatment of rosacea is warranted.

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