

Male Acne: The Importance of Gender in Acne Treatment

Terrence C. Keane, MD

Sexual dimorphism refers to phenotypic differences between genders of the same species. In humans, these differences are wide ranging and are reflected in differences in external genitalia, greater musculature, and larger skeletal anatomy in males relative to females.¹ Sexual dimorphism in cutaneous physiology² is well documented and primarily mediated by sex hormones. The skin's response to the metabolism of sex hormones³ differs in men versus women; in men, an increase in androgens affects several of the skin's functions, including hair growth, epidermal barrier homeostasis, and wound healing.⁴ Despite well-documented gender differences relating to cutaneous physiology, the importance of gender rarely is discussed in acne literature.

Although the mechanism of the formation of acne lesions is multifactorial, sebum production plays an important role. Acne patients have increased sebum production regardless of gender,⁵ with higher sebum excretion rates observed in patients with more severe acne.⁶ Sebum production is mediated by androgenic hormonal stimulation, leading to sebaceous gland growth, differentiation, and secretory activity. Postpubertal men have greater sebum production,⁷ regardless of the presence of acne, largely due to increased androgen levels. Because men produce more sebum, one would assume that acne is more prevalent and severe in male patients. On the contrary, acne is more common in adult women,⁸ and acne prevalence is comparable among adolescents of both genders.⁹ Acne may be less common in adult men because of the declining rate of sebum secretion observed with increasing age.¹⁰ Acne pathogenesis in men may be more dependent on sebum production; therefore, as sebum excretion declines with age, the prevalence of male acne decreases.

Given the high rate of sebum production in males, acne treatment in men should focus on sebum reduction. There are 2 major classes of acne treatment that reduce sebum: oral retinoids and hormonal therapy.¹¹ Unfortunately, the therapeutic options for sebum

reduction in men are limited to oral retinoids, as hormonal therapy such as androgen receptor blockers or oral contraceptive pills is contraindicated in male patients. Fortunately, hormonal therapy modulates sebum excretion to a lesser extent than oral isotretinoin. Among acne medications, isotretinoin has the greatest impact on sebum, reducing its production by 90%.¹² Because of its teratogenicity and side-effect profile, isotretinoin often is reserved for patients with moderate to severe refractory acne. Many of the side effects that limit isotretinoin's use are not observed in male patients. There is no reproductive risk and a decreased incidence of ocular side effects in male patients.¹³ Because of the importance of sebum reduction, a favorable side-effect profile, and limited therapeutic options, one would assume that isotretinoin is more commonly prescribed in men. Unfortunately, that trend has not been observed; more women with moderate acne receive isotretinoin therapy than men.¹⁴

The importance of gender in the treatment of acne is not limited to cutaneous physiology but also adherence to medication. Medication nonadherence has been recognized as a common culprit for treatment failure in acne patients, and male patients typically are less compliant than females.¹⁵ Adherence varies by product, as oral isotretinoin has achieved greater adherence than topical medications.¹⁶ In fact, men tend to have better adherence to oral medications, including statins¹⁷ and antiretroviral therapy,¹⁸ than women. Poor adherence to topical medications among males may be due to gender differences in tactile and sensory perceptions. Different levels of sebum and sweat may influence the way men perceive sensations associated with the application of topical products. Men also are less experienced in their use of topical products. A personal care product use survey found that men use 50% fewer topical products than women (6 products vs 12 products daily, on average).¹⁹

Because of gender differences related to cutaneous physiology and medication adherence, I take a unique approach to the treatment of male patients with moderate to severe acne. My threshold for prescribing isotretinoin is much lower in men given its more favorable side-effect profile and ability to reduce sebum. I favor oral medications (eg, antibiotics,

From the Washington Institute of Dermatologic Laser Surgery, Washington, DC.

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isotretinoin) because of better adherence among male patients. I limit topical medications to once-daily application. Combination acne products allow flexibility in delivering multiple active ingredients in a once-daily application. I also am more likely to consider office-based procedures (eg, chemical peels, laser treatments) in my male patients because they pose no adherence concerns.

When evaluating acne patients, the importance of gender cannot be ignored. Gender differences in cutaneous physiology and medication adherence require dermatologists to develop gender-specific acne treatment plans.

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