Folliculitis Keloidalis Nuchae and Pseudofolliculitis Barbae

Are Prevention and Effective Treatment Within Reach?

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KEYWORDS

• Folliculitis keloidalis nuchae • Pseudofolliculitis barbae • Acne keloidalis nuchae • Razor bumps • Ingrown hairs • Ethnic skin • Skin of color

KEY POINTS

- Pseudofolliculitis barbae (PFB) is an inflammatory follicular disorder associated with shaving, most commonly seen in men of African ancestry.
- Follicular penetration from ingrown hairs is the primary inciting factor in PFB.
- In the appropriate patient, an effective prevention strategy for PFB is to grow a beard, but optimization of shaving practices (including pre- and postcare) is a useful approach for men who wish to continue shaving.
- Folliculitis keloidalis nuchae (FKN) is a follicular-based disorder mainly affecting the nape of the neck; histopathologically, FKN has characteristics of a primary cicatricial alopecia.
- PFB and FKN are chronic conditions requiring continual maintenance strategies.

INTRODUCTION

Pseudofolliculitis barbae (PFB) and folliculitis keloidalis nuchae (FKN) are chronic follicular disorders that disproportionally affect men of African ancestry. Though common, these conditions are often therapeutically challenging, requiring pharmacologic, procedural, and behavioral approaches to treatment. In this article the epidemiology, pathogenesis, clinical findings, treatment options, prevention, and new advances with regard to PFB and FKN are discussed. The possibility of achieving effective preventive measures and treatments is also explored.

PSEUDOFOLLICULITIS BARBAE

Epidemiology

PFB is a common follicular disorder most prevalent in men of African ancestry.[1–3] It is also frequently observed among Hispanic, Middle Eastern, and other populations in whom tightly curled hair is common. Among African American men, the incidence of PFB is 45% to 83%.[4–6]

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PFB may also occur in any race and may also affect women.[1,7,8]

Pathogenesis

PFB is a chronic, noninfectious inflammatory disorder resulting from a foreign-body reaction to the hair shaft. Individuals who have coarse, tightly curled hair and who shave are predisposed to this condition, owing to the tendency for the distal portion of tightly curled hair shafts to reenter the skin after shaving. Reentry of shaved hair shafts can occur through 1 of 2 mechanisms: (1) extrafollicular penetration, whereby the shaved hair shaft grows along its natural curvature and penetrates the epidermis 1 to 2 mm distal to the follicular opening; or (2) transfollicular penetration, whereby the sharp distal tip of a shaved hair shaft retracts beneath the skin surface, pierces the follicular wall, and enters the dermis. Stretching the skin during shaving or close shaving techniques can contribute to transfollicular penetration.[4,9,10]

Hair reentry (via either extrafollicular or transfollicular penetration) results in a chronic, foreign-body inflammatory response.[1] In addition to this mechanical etiology, a genetic risk factor has been identified that can affect a subset of men with PFB. A substitution mutation in the 1A α-helical segment of the hair-follicle–specific keratin 75 (formerly K6hf) was found in 36% of PFB cases compared with 9% in controls ($P<.000006$). This single nucleotide polymorphism may be associated with a structurally weakened companion layer of the hair follicle which, along with curly hair shafts and close shaving, contributes to an increased risk for PFB.[11]

Clinical Features

The clinical hallmarks of PFB are follicular and/or perifollicular papules in an area where repetitive shaving has occurred (**Fig. 1**). In men, the most commonly affected area is the neck (**Fig. 2**) followed by the cheeks, whereas in women the chin (especially the submental region) is the most commonly affected area.[4] Of note, the moustache and nuchal areas are rarely affected. Hirsute women who shave or pluck unwanted hairs frequently develop PFB on the chin and neck area (**Fig. 3**). Shaving the axillae and bikini region of the groin, a common practice among women of all races, can lead to pseudofolliculitis in these areas.[7]

The papules of PFB may be firm, skin colored, erythematous, or hyperpigmented. If secondary infection arises, pustules and papulopustules may be present.[8] Some papules may contain visible hairs.[3] Linear depressions in the affected skin areas likely represent hairs that are growing parallel to the surface of the skin (**Fig. 4**).[4] Potential sequelae include postinflammatory hyperpigmentation (PIH) and keloids.[1] Pruritus and pain are also potential associated clinical features.[3,8]

Fig. 1. Pseudofolliculitis barbae with characteristic perifollicular papules and pustules on the beard area. Note the associated postinflammatory hyperpigmentation.

The differential diagnosis of PFB includes acne vulgaris, sycosis barbae, and traumatic folliculitis. No comedonal lesions are found in PFB, and acne vulgaris affects other areas of the face in addition to the beard area. Pustules are common in acne vulgaris, whereas they are rare in PFB. In sycosis barbae, perifollicular pustules are the primary and predominant lesions. Lesions in PFB are isolated, whereas in sycosis barbae they are confluent. Shaving improves sycosis barbae, whereas it makes PFB worse. Traumatic folliculitis, commonly known as razor burn, occurs when shaving is done too closely. Lesions are erythematous, painful, small follicular papules, which disappear within 24 to 48 hours after shaving.

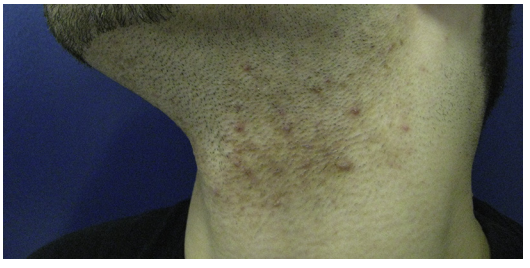

Fig. 2. Pseudofolliculitis barbae involving the neck (the most common region affected in men with this disorder).