Moving Beyond Traditional Methods for Treatment of Acne Keloidalis Nuchae

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Simultaneously published in *Cutis* and *Federal Practitioner.* doi:10.12788/fp.0515

Photographs courtesy of Richard P. Usatine, MD.

A A 25-year-old man of Hispanic ethnicity with pink papules, pustules, and large keloidal tumors on the occipital scalp characteristic of acne keloidalis nuchae (AKN). There is hair loss and some tufting of remaining hairs.

B A 17-year-old adolescent boy of African descent with small papules on the occipital scalp and some hair loss from AKN.

C A 19-year-old man of African descent with extensive papules and keloidal tumors on the occipital scalp as well as scarring hair loss and tufting of hairs from AKN.

Acne keloidalis nuchae (AKN) is a chronic inflammatory condition commonly affecting the occipital scalp and posterior neck. It causes discrete or extensive fibrosing papules that may coalesce to form pronounced tumorlike masses[1,2] with scarring alopecia (Figure, A–C).[3] Pustules, hair tufts, secondary bacterial infections, abscesses, and sinus tracts also may occur.[1] The pathogenesis of AKN has been characterized as varying stages of follicular inflammation at the infundibular and isthmus levels followed by fibrotic occlusion of the follicular lumen.[4] Pruritus, pain, bleeding, oozing, and a feeling of scalp tightness may occur.[1,5]

Umar et al[6] performed a retrospective review of 108 men with AKN—58% of African descent, 37% Hispanic, 3% Asian, and 2% Middle Eastern—and proposed a 3-tier classification system for AKN. Tier 1 focused on the distribution and sagittal spread of AKN lesions between the clinical demarcation lines of the occipital notch and posterior hairline. Tier 2 focused on the type of lesions present—discrete papules or nodules, coalescing/abutting lesions, plaques (raised, atrophic, or indurated), or dome-shaped tumoral masses. Tier 3 focused on the presence or absence of co-existing dissecting cellulitis or folliculitis decalvans.[6]

Epidemiology

Acne keloidalis nuchae primarily manifests in adolescent and adult men of African or Afro-Caribbean descent.[7] Among African American men, the prevalence of AKN ranges from 0.5% to 13.6%.[8] Similar ranges have been reported among Nigerian, South African, and West African men.[1] Acne keloidalis nuchae also affects Asian and Hispanic men but rarely is seen in non-Hispanic White men or in women of any ethnicity.[9,10] The male to female ratio is 20:1.[1,11] Hair texture, hairstyling practices such as closely shaved or faded haircuts, and genetics likely contribute to development of AKN. Sports and occupations that require the use of headgear or a tight collar may increase the risk for AKN.[12]

Key clinical features in people with darker skin tones

- The lesions of AKN range in color from pink to dark brown or black. Postinflammatory hyperpigmentation or hyperchromia may be present around AKN lesions.
- Chronicity of AKN may lead to extended use of high-potency topical or intralesional corticosteroids, which causes transient or long-lasting hypopigmentation, especially in those with darker skin tones.

Worth noting

- Acne keloidalis nuchae can be disfiguring, which negatively impacts quality of life and self-esteem.[12]
- Some occupations (eg, military, police) have hair policies that may not be favorable to those with or at risk for AKN.
- Patients with AKN are 2 to 3 times more likely to present with metabolic syndrome, hypertension, type 2 diabetes mellitus, or obesity.[13]

Treatment

There are no treatments approved by the US Food and Drug Administration specifically for AKN. Treatment approaches are based on the pathophysiology, secondary impacts on the skin, and disease severity. Growing out the hair may prevent worsening and/or decrease the risk for new lesions.[6]

- Options include but are not limited to topical and systemic therapies (eg, topical corticosteroids, oral or topical antibiotics, isotretinoin, topical retinoids, imiquimod, pimecrolimus), light devices (eg, phototherapy, laser), ablative therapies (eg, laser,

cryotherapy, radiotherapy), and surgery (eg, excision, follicular unit excision), often in combination.[6,14,15]

• Intralesional triamcinolone injections are considered standard of care. Adotama et al found that injecting triamcinolone into the deep dermis in the area of flat or papular AKN yielded better control of inflammation and decreased appearance of lesions compared with injecting individual lesions.[16]

• For extensive AKN lesions that do not respond to less-invasive therapies, consider surgical techniques,[6,17] such as follicular unit excision[18] and more extensive surgical excisions building on approaches from pioneers Drs. John Kenney and Harold Pierce.[19] An innovative surgical approach for removal of large AKNs is the bat excision technique—wound shape resembles a bat in a spread-eagled position—with secondary intention healing with or without debridement and/or tension sutures. The resulting linear scar acts as a new posterior hair line.[20]

Health disparity highlights

Access to a dermatologic or plastic surgeon with expertise in the surgical treatment of large AKNs may be challenging but is needed to reduce risk for recurrence and adverse events.

Close-cropped haircuts on the occipital scalp, which are particularly popular among men of African descent, increase the risk for AKN.[5] Although this grooming style may be a personal preference, other hairstyles commonly worn by those with tightly coiled hair may be deemed "unprofessional" in society or the workplace,which leads to hairstyling practices that may increase the risk for AKN.[21]

Acne keloidalis nuchae remains an understudied entity that adversely affects patients with skin of color.

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