## Answer to Dermacase *continued from* **page 159**

### 4. Acne keloidalis nuchae

Acne keloidalis nuchae (AKN), also known as *folliculitis keloidalis nuchae*, is a chronic, scarring folliculitis characterized by fibrotic papules and nodules at the nape of the neck and occiput.[1,2] Initially, small, smooth, firm papules with exiting hair and occasional pustules appear.[1] Over time, the papules coalesce to form hairless, keloid-like, protuberant plaques that can be disfiguring.[1] In advanced or severe cases, abscesses and pus-exuding sinuses might be present.[3] Acne keloidalis nuchae is often asymptomatic; however, patients sometimes experience mild burning, pruritus, or pain.[1,3] Ultimately, AKN might progress to scarring alopecia. Irrespective of symptoms, quality of life is affected, as lesions are persistent and in visible locations.[4]

Acne keloidalis nuchae primarily affects young men of African descent. Most cases occur in patients 14 to 25 years of age.[1,4] Acne keloidalis nuchae is rarely observed in white people or black women. A male-to-female predilection of 20:1 has been suggested,[5] with overall prevalence estimated at 0.5% of all dermatologic cases in the black population.[1]

The pathogenesis of AKN remains unclear.[1] It is believed that the primary pathologic process is acute inflammation of the follicle, leading to a granulomatous foreign body reaction to hair growth and subsequent fibrosis.[6] A short, stocky neck[7] and coarse, frizzy hair might be predisposing factors.[7,8] Suggested inciting events include constant irritation by shirt collars,[9] low-grade bacterial infection,[1] cutting hair too short,[4] and wearing helmets.[8,9] However, none of these theories has been proven to date.[1]

## Diagnosis

A diagnosis of AKN is made clinically. However, a biopsy can be performed in atypical cases. Bacterial culture and sensitivity might be useful if pustules and draining sinuses are present. The differential diagnosis includes impetigo, acne vulgaris, tinea capitis, and hidradenitis suppurativa. Impetigo tends to occur more commonly in young children, with rapid development of lesions. If left untreated, lesions resolve spontaneously after several weeks without scarring.[10] Acne vulgaris is characterized by lesions occurring on the face, upper chest, and back. The presence of comedones is pathognomonic.[11] While inflammatory papules might be present in tinea capitis, they typically form a ring-shaped lesion. In cases of pustule formation, occipital lymphadenopathy might be observed, with lesions affecting the scalp.[12] Hidradenitis suppurativa is characterized by painful subcutaneous nodules affecting primarily the axillae, perineum, and inframammary areas. Women are more likely affected, and there is no clear racial predilection.[13]

## Treatment

Treatment of AKN is challenging, as lesions often are intractable.[1,4] Onset of the keloidal component in AKN might only be prevented with treatment in the early phase of the disease.[1,4] Treatment of AKN is categorized as *medical* or *surgical*, with modalities corresponding to the phase of the lesions. In early papular AKN, high-potency topical steroids such as 0.05% clobetasol propionate and 0.1% amcinonide twice a day can be used with or without topical or oral antibiotics.[4] Intralesional triamcinolone acetonide injections (2.5 to 10 mg/mL) can also be beneficial, but patients need to be warned that the area might become hypopigmented for several months afterward.[3] In the pustular phase, oral antibiotics such as tetracycline and doxycycline twice a day might be used for their antibacterial and anti-inflammatory effects.[4] With large abscesses or draining sinuses, a short course of 40 to 80 mg of oral prednisone tapered over 7 to 10 days can be considered.[4] Avoidance of haircuts that are too short and irritation from shirt collars or helmets are general patient education principles.[1,4] For advanced or intractable AKN, laser ablation such as with a carbon dioxide laser can be considered.[7] Surgical excision of lesions involves a horizontal ellipse with primary closure, although healing by secondary intention has been reported to cause fewer recurrences.[8] Grafts following excision are generally not cosmetically acceptable owing to the resulting large and depressed site. As well, scarring alopecia is a likely outcome of surgical treatment.[4]

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**Competing interests**
None declared

**References**

1. Sperling LC, Homoky C, Pratt L, Sau P. Acne keloidalis is a form of primary scarring alopecia. *Arch Dermatol* 2000;136(4):479-84.
2. Quarles FN, Brody H, Badreshia S, Vause SE, Brauner G, Breadon JY, et al. Acne keloidalis nuchae. *Dermatol Ther* 2007;20(3):128-32.
3. Dinehart SM, Herzberg AJ, Kerns BJ, Pollack SV. Acne keloidalis: a review. *J Dermatol Surg Oncol* 1989;15(6):642-7.
4. Adegbidi H, Atadokpede F, do Ango-Padonou F, Yedomon H. Keloid acne of the neck: epidemiological studies over 10 years. *Int J Dermatol* 2005;44(Suppl 1):49-50.
5. Kelly AP. Pseudofolliculitis barbae and acne keloidalis nuchae. *Dermatol Clin* 2003;21(4):645-53.
6. Herzberg AJ, Dinehart SM, Kerns BJ, Pollack SV. Acne keloidalis. Transverse microscopy, immunohistochemistry, and electron microscopy. *Am J Dermatopathol* 1990;12(2):109-21.
7. Kantor GR, Ratz JL, Wheeland RG. Treatment of acne keloidalis nuchae with carbon dioxide laser. *J Am Acad Dermatol* 1986;14(2 Pt 1):263-7.
8. Glenn MJ, Bennett RG, Kelly AP. Acne keloidalis nuchae: treatment with excision and second-intention healing. *J Am Acad Dermatol* 1995;33(2 Pt 1):243-6.
9. Knable AL Jr, Hanke CW, Gonin R. Prevalence of acne keloidalis nuchae in football players. *J Am Acad Dermatol* 1997;37(4):570-4.
10. Cole C, Gazewood J. Diagnosis and treatment of impetigo. *Am Fam Physician* 2007;75(6):859-64.
11. Strauss JS, Krowchuk DP, Leyden JJ, Lucky AW, Shalita AR, Siegfried EC, et al. Guidelines of care for acne vulgaris management. *J Am Acad Dermatol* 2007;56(4):651-63. Epub 2007 Feb 5.
12. Gupta AK, Hofstader SL, Adam P, Summerbell RC. Tinea capitis: an overview with emphasis on management. *Pediatr Dermatol* 1999;16(3):171-89.
13. Alikhan A, Lynch PJ, Eisen DB. Hidradenitis suppurativa: a comprehensive review. *J Am Acad Dermatol* 2009;60(4):539-61.