

Acne keloidalis nuchae

Acne keloidalis nuchae, also known as folliculitis nuchae, is a chronic scarring folliculitis characterized by fibrotic papules and nodules of the nape of the neck and the occiput. It particularly affects young men of African descent and rarely occurs in women; in either case its occurrence has a significant impact on the patient's quality of life. We've asked our experts to share their experience in helping patients with this cosmetically disfiguring disorder.

Question

Please describe your approach to the treatment of patients with early (less than 20 papules, pustules and 1–2 < 2 cm nuchae keloids) acne keloidalis nuchae. (1–3)

Response

Dr. Quarles: If the papules are small and barely raised, I generally prescribe a potent/superpotent topical fluorinated corticosteroid in ointment, lotion, solution, or foam formulations for nightly application. Letting the patient choose the vehicle helps with compliance. If pustules are present, I'll include a topical antibiotic solution or foam, preferably, clindamycin, which is applied twice daily. Intralesional triamcinolone acetonide 40 mg/cc is injected into the more raised papules and repeated on subsequent office visits as needed. Systemic antibiotics, preferably tetracycline 500 mg twice daily is reserved for patients with numerous pustular lesions. Recently, I have begun weaning patients down to lower dosages of doxycycline (40 mg daily) for maintenance therapy, following a trend toward treating aggressively early, which has yielded better results than the converse. Follow-up appointments are every 4–6 weeks for 6 months until the active phase is in remission then every 6 months.

Dr. Brody: My preference for treating early or mild acne keloidalis nuchae is injecting 3 mg/cc intralesional triamcinolone.

Dr. Badreshia: Initially, I treat acne keloidalis nuchae with topical steroids, oral doxycycline (for

its antimicrobial and antiinflammatory effect), and a series of intralesional steroids (40 mg/cc of existing keloids). Education is the key to prevention. I discourage high-collared shirts, short haircuts, and close shaving or cutting the hair along the posterior hairline. In the long-term, patients benefit from laser hair removal using diode or Nd:YAG, which helps avoid disease progression. Early treatment decreases the morbidity that can be associated with late-stage disease.

Dr. Vause: I treat early acne keloidalis nuchae by instructing patients to wash the skin frequently with a mild keratolytic like tar or an alpha hydroxy acid cleanser. Patients are instructed to apply topical clindamycin with steroid in the morning and retinoid at bedtime.

Dr. Brauner: An option is to treat all patients with chlorhexadine cleanser as a daily shampoo and minocycline 100 mg daily b.i.d. or Duricef (generic) 500 twice daily, or erythromycin 250 mg (after culturing pustules). Rifampin is reported to be helpful. I inject all papules with triamcinolone acetonide 3–5-mg/cc increasing to 40 mg/cc for more resistant lesions. If there is keloid formation or hypertrophic scars, debulking with a CO₂ laser followed by triamcinolone injections is very beneficial. I stress to patients the importance of discontinuing all hair greases or pomades.

Dr. Breadon: The first step in treating patients with acne keloidalis nuchae is educating... "No, it's not caused by the barber's dirty clippers," etc. I also recommend wearing soft or no-collar shirts whenever possible. I start patients on a combination of mid-potency topical steroid and topical antibiotic, such as fluocinonide cream and clindamycin solution, or chloramphenicol powdered into the steroid cream, at 300 mg powder to 60-g steroid cream applied daily for 4 weeks. With this approach, I ease the patient into the next level of treatment, which consists of monthly intralesional triamcinolone, 10 mg/cc, into (and not under) the individual lesions.

Dr. Swinehart: Acne keloidalis nuchae can be treated with trimethoprim or isotretinoin in an



FIG. 2. Mild acne keloidalis nuchae.

attempt to first clear the acne. Ingrown hairs, if present, can be treated surgically.

Dr. Epps: I prescribe class 2 or 3 topical steroids in addition to administering intralesional steroids. If there are inflamed pustules, my prescription includes oral or topical antibiotics.

Question

How do you treat patients with more severe disease characterized by keloidal nodules and coalescent plaques?

Response

Dr. Quarles: Severe disease requires even more aggressive therapy. I prescribe prednisone 40 mg or 60 mg tapering by 5 mg each morning. In my opinion, cryotherapy is not indicated and can cause unsightly hypopigmentation, especially, in patients with skin type VI.

Dr. Brody: Shaving lesions followed by intralesional steroids works well.

Dr. Badreshia: Late-stage lesions, characterized by draining sinuses and large keloidal masses, are often refractory to treatment. I first try topical and intralesional steroids in addition to topical and oral antibiotics. I have not used retinoids but would consider them as an option to surgical approaches. Early epilation is strongly encouraged along with education.

Dr. Vause: Intralesional triamcinolone with fluorouracil for three consecutive months, followed by serial excisions and postoperative immunotherapy and/or radiation.

Dr. Brauner: Lesions respond to debulking and CO₂ laser excision to the fat followed by surgical site granulation.

Dr. Breadon: Inflammation at any stage is treated with a tetracycline (or derivative) antibiotic twice daily (usually doxycycline, at 100–200 mg per day, or minocycline, 75–100 mg twice daily). The newer gentle foaming benzoyl peroxide or sulfur-based washes, or PhisoHex cleanser is suggested. I inject intralesional triamcinolone 10 mg/cc into smaller papules and pustules. In patients with keloidal nodules and plaques, 20 mg/cc is used. Sometimes I gingerly pretreat these lesions with liquid nitrogen before injecting to facilitate intralesional injections into large, firm lesions, whereas avoiding potential complications of secondary dyschromia.

Question

Are there any surgical or other interventions that you find helpful in severe acne keloidalis nuchae?

Response

Dr. Quarles: For patients with severe acne keloidalis nuchae, primary excision with secondary intention healing has been effective with no recurrence going after 15 years. I discourage surgical intervention for any inflammatory problems on hair-bearing areas whether on the scalp or groin as a result of poor wound healing and persistent excessive granulation that can result as wounds heal in these areas. Radiation therapy immediately postoperation is useful; however, the results are mostly palliative. I have not seen or experienced any better results with the use of lasers in the treatment of this disease when compared to surgical intervention. Neither am I convinced that lasers play much of a definitive role in the treatment of scarring follicular disorders, except, possibly pseudofolliculitis barbae.

Dr. Badreshia: In severe cases, surgical excision or carbon dioxide laser ablation followed by healing with secondary intention have been tried with some success. I find excision with primary closure to be an excellent surgical treatment modality for the management of extensive cases. Previous articles have reported that excision with second-intention healing is more effective than primary closure. Extremely large lesions should be excised in multiple stages. Preoperatively, the surgeon must evaluate the size of the keloid, as well as the laxity of nuchal skin, in determining whether the

lesion should be excised in one, two, or even three stages. Complications may occur if the surgeon excises a large keloid in one stage and subsequently attempts to close the resulting defect under excessive tension. Spread scars and restricted movement may be avoided if large keloids are excised in two stages, thus allowing the surgeon to close the resulting defect without undue tension.

Dr. Breadon: Patients with advanced keloidal lesions require some form of surgical intervention. I haven't detected a marked difference in the response of patients who undergo surgical procedures with either scalpel excision ("cold steel"), carbon dioxide laser excision with the laser beam in the focused mode, or carbon dioxide laser vaporization in the defocused mode. If there is sufficient nuchal scalp laxity and the keloidal plaque is small lying in a horizontal orientation, excision with primary side-to-side closer is performed. If there is a broad area of scalp involvement, I perform tangential shave excision of the lesion(s), with healing by secondary intention. The patient is treated with immediate postoperative intralesional triamcinolone, 10 mg/cc to the surgical site(s), as well as monthly triamcinolone injections thereafter, ranging from 5 to 20 mg/cc strength, typically for up to 6 months or longer in patients who have undergone either type of surgical excision.

Questions on dissecting cellulitis and folliculitis decalvans:

Question

What is your approach to treating patients with perifolliculitis capitis abscessens et suffodiens (dissecting cellulitis of the scalp)?

Response

Dr. Quarles: A 21-gauge needle and vacutainer connected to a red-top test tube is a simple means of aspirating any seropurulent material within the abscess nonsurgically. Cultures are taken but are invariably negative as these abscesses are sterile. In the rare case of bacterial growth, it is probably a result of previous rupture and becomes secondary infection. Intralesional triamcinolone 40 mg/cc is injected into the evacuated abscess and (1) prednisone 60 mg initially tapered by 5 mg in the morning and (2) trimethoprim sulfide double-strength 20 mg bid for 10 days is prescribed. Maintenance therapy is tetracycline 500 mg twice daily.

Dr. Badreshia: I rule out any underlying or associated conditions through a history and physical examination including the follicular occlusion triad (acne conglobata, hidradenitis suppurativa, and pilonidal sinus). If there is drainage, cultures are ordered. To calm down active inflammation and drainage, I prescribe oral antibiotics and prednisone. Isotretinoin, which can change the pattern of follicle keratinization and suppresses sebaceous gland activity, is prescribed at a dose of 1 mg/kg/day for at least 4 months after the disease is clinically inactive. Concomitant therapies for resistant lesions include intralesional steroid, incision and drainage, and local excision. Laser treatment with diode and Nd:YAG can be an excellent treatment once active disease is controlled.

Dr. Vause: Culture. Start with a loading dose of oral antibiotics tapering as symptoms improve. Long-term maintenance therapy may be necessary. Prescribe a steroid shampoo, solution and/or perform intralesional injections. Instruct patients to avoid occlusive pomade hair preparations and excessive scalp manipulation.

Dr. Brauner: I have fortunately seen it only very rarely but would culture the area and treat with appropriate antibiotics followed by beginning with isotretinoin.

Dr. Breadon: Early intervention and education is essential. I start patients on high-dose oral zinc gluconate or sulfate, 220 mg three times daily with food, indefinitely. I often treat with minocycline, 100 mg twice daily. Daily scalp cleansing with PhisoHex can be helpful. Intralesional injections are administered at the time of the initial visit and monthly. Active, fluctuant lesions as well as scarred/fibrotic lesions are injected with triamcinolone, in concentrations of 10-20-40 mg/cc, depending on the severity of the fibrosis. Very fibrotic lesions are excised and closed primarily.

Dr. Swinehart: Dissecting cellulitis and folliculitis decalvans generally respond to broad-spectrum antibiotics or isotretinoin.

Dr. Brody: I use sulfa and rifampin after obtaining cultures in both dissecting cellulites and pseudofolliculitis.

Question

How do you treat patients with folliculitis decalvans?

Response

Dr. Quarles: Radiation can be helpful for this difficult problem.

Dr. Badreshia: Treatment is targeted to the etiologies of folliculitis decalvans: a primary bacterial infection, *Staphylococcus aureus*, and retention of follicular products with secondary infection. As the chronic stage of this disease is characterized by irreversible scarring and hair loss, it is important that effective treatment is started as soon as possible.

Antibacterial soaps/shampoos, topical antibiotics, and topical and intralesional steroids should be included in the regimen in addition to oral antibiotics like tetracyclines following wound cultures. Alternative agents may include macrolides, quinolones, and rifampin 300 mg twice daily and clindamycin 300 mg twice daily for 10 weeks. Rifampin and clindamycin are both lipophilic molecules and achieve good intracellular concentrations within phagocytes, thus increasing the potential for eradication of *S. aureus*. However, close laboratory monitoring for some of these antibiotics is mandatory. Oral zinc, presumably for its antiinflammatory effect, can also be helpful as an adjunctive agent. I try to avoid steroids if there are no active lesions including papules, pustules, or erythema. However, alternate-day systemic corticosteroid therapy has been reported to suppress profound inflammation and reduce subsequent scarring. Isotretinoin is well known for its effects on the pilosebaceous unit and has documented success.

Multiple surgical techniques have been implemented with variable success in the treatment. The disadvantage of surgical therapies is the associated morbidity and unacceptable cosmetic endpoints. CO₂ laser has been used to excise affected regions of the scalp followed by secondary intention healing. Nd:YAG, diode, or long-pulsed ruby laser has been reported to improve this follicular condition.

Dr. Vause: One option is alternate intralesional steroids with mesotherapy to affected areas. The patients should discontinue all traumatic hair and scalp manipulations. Multivitamins and a hair fiber strength solution can be helpful. After 3–6 months, we start surgical hair replacement.

Dr. Brauner: Both of these diseases are very rare in my patient population. Betadine can be used as a shampooing agent daily. After painting a culture, we consider prescribing erythromycin, Duricef

(generic) or minocycline. Discontinuance of greasy hair products is important.

Summary

Our experts feel that the first step in treating patients with acne keloidalis nuchae is explaining that the disease was not caused by the barber using unclean clippers to cut their hair. Patients should be instructed to substitute tight, high-collared shirts with soft or no collared shirts whenever possible. Short haircuts and close scalp shaving should be avoided. Daily shampooing with gently foaming benzoyl peroxide washes, chlorhexidine, or mild keratolytic cleansers containing alpha hydroxy acids or tar are effective alternatives to standard shampoo products. Discontinuance of hair greases and hair pomades is advised.

Early, mild papular disease responds to potent or super-potent topical steroids. Larger inflamed papulopustular lesions should be cultured and treated with topical antibiotics (after culture), monthly intralesional triamcinolone (3–10 mg/cc) and an oral antibiotic such as a tetracycline or a tetracycline-derivative minocycline, erythromycin, trimethoprim sulfamethoxazole, or rifampin. Isotretinoin can be considered for rapidly progressing disease.

Less keloidal nodules and plaques can be shaved, followed by intralesional triamcinolone injections, injected with triamcinolone and 5FU for three consecutive months, followed by serial excisions and postoperative radiation and/or immunotherapy or injected with 20 mg/cc triamcinolone.

When surgery remains the only option, carbon dioxide laser debulking and excision into the fat, tangential shaving or primary excision with secondary intention healing followed by radiation therapy are alternatives. If primary closure is planned, preoperative assessment of nuchal laxity is beneficial in determining whether serial excisions are indicated.

All of our experts agree that obtaining a culture is the first step in treating a patient with dissecting cellulitis of the scalp, although bacterial growth may be the result of rupture and secondary infection. Culture and aspiration can be completed simultaneously by using a 21-gauge needle connected to a vacutainer and red-top tube. Following aspiration, intralesional triamcinolone 10–40 mg/cc is administered in addition to oral antibiotics – trimethoprim, tetracycline, minocycline, or rifampin – is prescribed. Oral prednisone (60 mg tapered

over 10 days) helps with the severe inflammation. Once the active disease is controlled, oral zinc gluconate or sulfate 220 mg/day should be considered. Excision and diode and Nd:YAG laser may be used if the lesions are fibrotic.

The mainstay of therapy for folliculitis decalvans includes: antiseptic and steroid shampoos, intralesional and oral steroids, and oral antibiotics. Isotretinoin may be beneficial.

References

1. Adegbi H, Ogunbiyi A. Keloid acne of the neck: epidemiological studies over 10 years. *Int J Dermatol* 2005; **44** (Suppl. 1): 49–50.
2. George A. Acne keloidalis in females: case report and review of literature. *Indian J Dermatol Venereol Leprol* 2005; **71**: 31–34.
3. Shah GK. Efficacy of diode laser for treating acne keloidalis nuchae. *Indian J Dermatol Venereol Leprol* 2005; **71**: 31–34.

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