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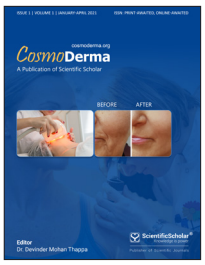

*Case Report*

# Excision and advancement flap repair of a giant acne keloidalis nuchae

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## ABSTRACT

Acne keloidalis nuchae is an unusual form of progressive chronic folliculitis with cicatricial alopecia that affects the nape of the neck. Rarely, it can lead to severe scarring with tumor like masses where treatment becomes challenging. We present a case report of such a patient who underwent local excision for the tumor like mass with good recovery.

**Keywords:** Acne keloidalis nuchae, "Tumor-like" mass, Malignancy mimic, Surgical resection

## INTRODUCTION

Acne keloidalis nuchae (AKN) is a chronic inflammatory condition of the scalp characterized by the presence of fibrotic papules and plaques and subsequent scarring alopecia in the nuchal or occipital area of the scalp. The term is a misnomer, as it is neither a keloid nor is it related to acne vulgaris.[1] In this case report, we review a patient with large tumor-stage AKN requiring surgical excision after the failure of conventional modalities of therapy.

## CASE REPORT

A 30-year-old male presented to us with pruritic erythematous follicular-based painful papules and pustules with alopecia and comedonal plugs over the occipital area of the scalp and nape of the neck for the past 5 years. Initially, the patient was managed with oral doxycycline, 0.05% tretinoin cream, and intralesional injections of triamcinolone acetonide (10 mg/ml). Over time, the few small nodules over the occipital scalp had evolved to form larger keloid-like lesions and a pedunculated nodule of size 5 × 4 cm [Figure 1]. He did not have similar lesions on other body parts. Few of them were treated with intralesional steroid injection without any improvement. Subsequently, the patient underwent an excisional biopsy in view of the large lesion affecting the quality of life. Within 3 weeks, he was symptom-free and resumed his work. The patient was counseled regarding importance of avoiding trauma during shaving and maintenance of hygiene.

### Operative technique

The area was trimmed and cleaned with betadine and draped with sterile sheets. Before excision, the area was anaesthetized using 20 ml of tumescent solution. The tumor was excised using an elliptical incision up to the depth of hair follicles [Figure 2]. After achieving hemostasis, the

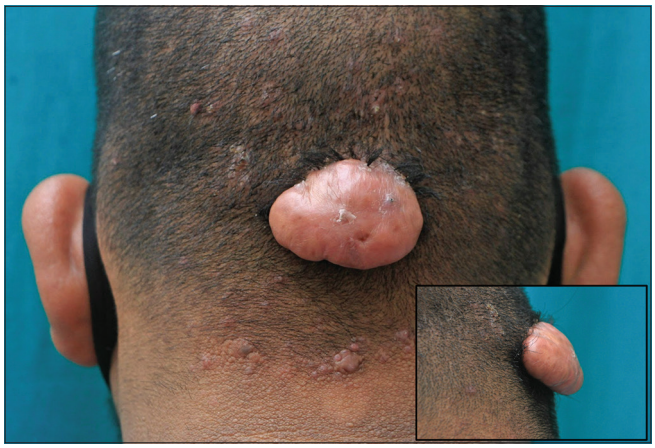

**Figure 1:** Clinical images of a single tumor-like pedunculated lesion with alopecia and comedonal plugs located near occiput, with background skin showing multiple crusted papules and keloid-like plaques over the nape of the neck; inset showing the lateral view.

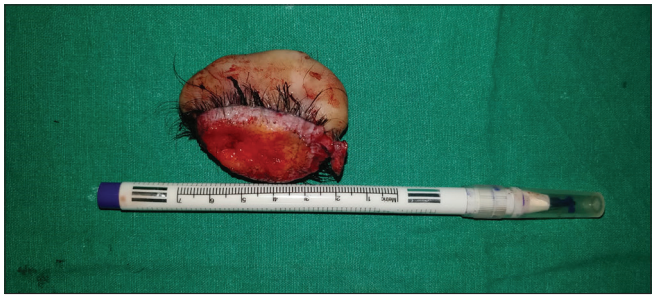

**Figure 2:** Tumor-like tissue excised by elliptical incision from occipital area of scalp.

resulting gap was sutured in two layers with a deeper dermal closure using 4-0 polyglecaprone 25 and epidermal closure using 3-0 polypropylene using vertical mattress sutures. The sutures were removed on day 10. There were no signs of local infection at the time of suture removal.

## DISCUSSION

AKN/folliculitis keloidalis nuchae is a follicular-based chronic inflammatory condition with scarring alopecia predominantly involving the occipital scalp and nape of the neck leading to the formation of keloidal follicular papules and plaques. This entity was known by different terminologies until Bazin coined the term AKN. Although not a keloid, the term AKN is commonly used in practice. The affected individuals neither have a tendency to develop keloid in other areas of the body nor does the lesion have histological features suggestive of keloid. Mostly found to occur among pre-pubertal men of African ancestry with afrotextured hair,[2] it may be uncommonly seen after 55 years of age as well. In some individuals, papules may coalesce to form large, keloid-like plaques often involving the entire back of the head-and-neck. These lesions which are termed as "tumor-stage" AKN are usually managed aggressively by surgical excision, cryotherapy, or laser therapy.

Although the exact pathomechanism is unclear, mechanical skin injury and altered immune responses are implicated in the development of AKN. Inflammation contributes to the progression of the disease. It can be extremely disfiguring and can affect the person's quality of life to a great extent as seen in our patient. Multiple exacerbating factors such as improper hair cutting practices, trauma, friction (rubbing from shirt collars and helmet), heat, and humidity are found to be associated with AKN.[3] Other potential contributory factors include altered immune response, autoimmunity, androgens, and seborrhea. This condition was also suggested to be a marker of metabolic syndrome by Verma and Wollina.[4]

There are numerous therapeutic options for AKN with varying outcomes. Mild-to-moderate AKN can be addressed with medical management featuring the use of antibiotics as well as corticosteroids and retinoids, individually or in combination with one another in both topical and intralesional formulations. Large fibrotic lesions are usually tackled by surgical interventions. The importance of excision of keloidal tissue to a depth extending up to the base of hair follicle was first emphasized by Kanthak and Cullen.[5] Later Gloster reported 24 patients with AKN treated by excision with direct closure.[6]

In our case, we could manage the excision using elliptical excision since the defect created was small and approximation was easy. In larger lesions, a flap might have to be raised for defect closure.

The prolonged clinical course of AKN occurs due to delay in diagnosis as well as initiation of treatment. Early diagnosis and timely interventions are of utmost importance in preventing disfigurement and avoiding psychological morbidity in such patients. In our patient, recurrent episodes of AKN resulted in large tumor-like masses clinically mimicking malignancy which was successfully managed by prompt surgical intervention.

## CONCLUSION

Radical surgical excision with advancement flap repair would give a satisfactory result in giant "tumor-stage" AKN lesions as these are usually refractory to other modalities of therapy. This can yield good cosmetic results and better quality of life with very minimal postoperative complications.

### Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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**Conflicts of interest**

Dr. Devinder Mohan Thappa is the Editor-In-Chief of the journal.

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