LAPORAN KASUS

Successful Combination Therapy of Acne Keloidalis Nuchae

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ABSTRACT

Background: Acne keloidalis nuchae (AKN) is a chronic, inflammatory, idiopathic disorder of hair follicle, characterized by keloidal papules or plaques on the nape and occipital scalp. Various therapies have been reported to treat AKN with various results. **Purpose:** To observe the efficacy of combination therapy for AKN. **Case report:** A 19-year-old man presented with multiple pruritic papules, 0.1–0.3 cm in diameter on the nape and occipital area. The histopathological examination revealed neutrophil, eosinophil, and plasma cell infiltration in infundibulum, which was consistent with AKN pathological patterns. **Discussion**: Combination therapy consisted of 0.025% tretinoin cream, 0.1% mometasone furoate cream, intralesional triamcinolone acetonide 5 mg/ml, and doxycycline 2x100 mg. The improvement was initially observed on 2nd week of follow up, as the lesions had reduced in size and number, and the improvement became more significant on 4th week of follow up. **Conclusion:** Combination therapy of topical tretinoin, topical and intralesional steroid, and systemic doxycycline shows good result and can be considered in the management of AKN.

Key words: acne keloidalis nuchae, combination therapy.

ABSTRAK

Latar belakang: *Acne keloidalis nuchae* (AKN) merupakan inflamasi kronis folikel rambut, bersifat idiopatik, berupa adanya papula atau plak yang menyerupai keloid pada tengkuk dan kulit kepala berambut bagian oksipital. Berbagai pilihan terapi dapat diberikan pada AKN dengan hasil yang bervariasi. **Tujuan:** Untuk melihat efektivitas terapi kombinasi pada AKN. **Kasus:** Seorang laki-laki berusia 19 tahun dengan lesi kulit berupa papula multipel, berdiameter 0,1-0,3 cm pada tengkuk dan kulit kepala berambut bagian oksipital yang terkadang terasa gatal. Hasil histopatologis papula menunjukkan infiltrasi neutrofil, eosinofil, serta sel plasma pada infundibulum yang sesuai dengan gambaran AKN. **Pembahasan:** Terapi kombinasi terdiri dari krim tretinoin 0,025%, krim mometason furoat 0,1%, injeksi intralesi triamsinolon asetonid 5 mg/ml, dan doksisiklin 2x100 mg. Perbaikan mulai tampak pada minggu ke-2 berupa pengurangan ukuran dan jumlah lesi. Pada minggu ke-4 ukuran dan jumlah lesi semakin berkurang. **Simpulan:** Terapi kombinasi yang terdiri dari tretinoin topikal, steroid topikal dan intralesi, serta doksisiklin sistemik pada pasien ini menunjukkan hasil yang baik. Berdasarkan hal tersebut, terapi kombinasi dapat dipertimbangkan pada tatalaksana AKN.

Kata kunci: *acne keloidalis nuchae*, terapi kombinasi.

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INTRODUCTION

Acne keloidalis nuchae (AKN) was first described by Kaposi in 1869 as dermatitis papillaris capillitia.[1-4] The term AKN was first introduced by Bazin.[1,3] Folliculitis nuchae, folliculitis keloidalis, sycosis nuchae, keloid folliculitis, lichen keloidalis nuchae, and folliculitis nuchae scleroticans are other terms for AKN.[1,5,6]

The etiology of AKN is still unknown.[1] Clinically, AKN is characterized by keloidal papules or plaques on nuchal and occipital area.[7] AKN is not a true keloid, and not related to acne vulgaris.[3]

This disease is most commonly seen in 14-25 year-old African Americans men.[1,2,5,6] The incidence is up to 0.45-0.5% of all dermatosis affecting African Americans.[1-3] There is no guidelines available for AKN nowadays so the management depends on its clinical manifestation.[2,8] The first line therapy is prevention.[1] Patients should avoid rubbing and scratching the affected areas.[8] Topical therapies can be benefit for AKN are corticosteroid, combination of corticosteroid and retinoic acid, clindamycin, or erythromycin (for pustular lesions), and immunomodulator.[1,2] Injection of triamcinolone

acetonide, cryosurgery, cautherization ultraviolet B radiation, and excision can also be a treatment choice.[9-12]

The aim of this report is to observes the efficacy of combination therapy for AKN.

CASE REPORT

A 19-year-old man presented with a year history of itchy, erythematous papules on the nape and occipital scalp. The lesions had been treated before with salicyl talc and corticosteroid cream without improvement. The patient had no history of acne, keloid, excessive sweating, and using tight hats or clothes. Multiple discrete papules were observed on the nuchal an occipital area, and there was no comedone (Figure 1).

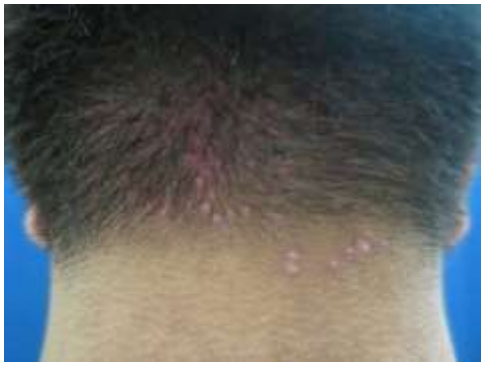

Figure 1. Multiple discrete papules were observed on the nuchal an occipital area, and there was no comedone.

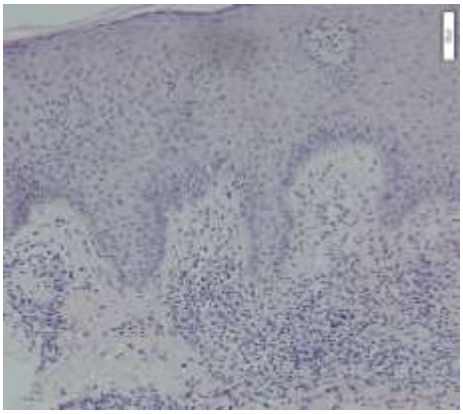

Figure 2. Histopathology examination.

Histopathology examination revealed acanthosis, infundibulum infiltration of limphocytes, neutrophils, eosinophils, and plasma cells, which lead to AKN (Figure 2). The level of high density lipoprotein, low density lipoprotein, total cholesterol, triglyceride, fasting blood glucose, and 2-hour postprandial glucose was normal. The patient received 0.1% mometasone furoate cream in the morning, 0.025% tretinoin cream in the evening, doxycycline 2x100mg/day, and cetirizine 10 mg/day to relieve itching. Injection of triamcinolone acetonide 5 mg/day was also given every 2 weeks. The improvement was observed on 2nd week of follow-up, and the result was more significant on 4th week of follow-up (Figure 3).

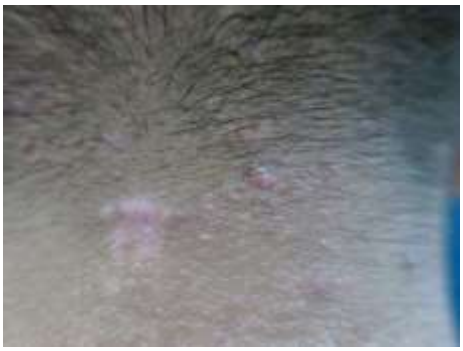

Figure 3. The improvement on 4th week of follow up.

DISCUSSION

Acne keloidalis nuchae is rare in prepubertal patients and over 50 years old.[7,13] The sex ratio between male and female is 20:1.[1,2,11] Adegbidi et al. reported the incidence of AKN in 10 years (1993-2002) was 0.7%.[13] All patients were men, with mean age 29 year-old.[13]

The cause of AKN is still unknown.[1,2,3,7] AKN is not keloid or acne vulgaris variants.[1,3] In contrast to acne vulgaris, comedones are not present.[7,13,14] The patients usually do not have keloid elsewhere, and the lesions typically do not recur following excision.[4,14]

Some predisposing factors for AKN are coarse and short haircut, stocky neck, constant irritation by shirt collars, wearing tight-fitting hats or helmets, medications, seborrheic dermatitis, hot and humid environment.[14] Mechanical irritation, such as shaving, can induce inflammation reaction.[11] Spesific genetic involvement is still unknown, but D'Souza reported AKN an Indian family.[7,15] Acne keloidalis nuchae rarely seen in association with other diseases, but Verma reported the association between AKN and diabetes mellitus, obesity, and hypertension.[13] Obesity can cause neck folds which subsequently induce follicle occlusion.[13] AKN commonly occur in men, which has made androgen excess a possible suspect.[15]

The clinical manifestation is varies. AKN has a broad spectrum of clinical manfiestations.[2] Diagnosis is usually based on clinical findings.[16] Initial manifestation characterized by firm, skin-colored papules on nuchal and occipital area, then the lesions may be coalesce to form keloidal plaques. Pustules can occur secondary to rubbing or trauma.[1]

Histopathological feature of AKN is characterized by follicular and perifollicular infiltration of inflammation cells, which change

during the evolution of the disease.[1] Neutrophil and lymphocyte infiltration, epidermal hyperplasia, and edema of dermis are found in early lesion.[1,4] More advanced lesion is characterized by broken hair follicles surrounded by granulomatous inflammation, dermal fibrosis, and perifollicular abscess.[1,16]

There is no current guidelines for this disease,[8] and the management depends on clinical stage.[2,8] The first line therapy is prevention.[1] Avoid rubbing and scratching gives good result.[8] Patient should not use razor for hair shaving. Tight clothes, hats, or other cloting that may cause mechanical irritation to posterior hairline should be avoided.[1] Topical therapies are indicated for papules less than 3 cm, while lesion larger than 1 cm can be excised.[1,16] Intralesional steroid can reduce inflammation and scar.[6] Macrolide antibiotics are considered as first line oral therapy for AKN.[17]

George reported *Staphylococcus aureus* was the major bacterial species cultured from the lesions.[18] *Staphylococcus aureus* may act synergistically with *Propionibacterium acnes* in triggering AKN, although there was no significant increasing of *Propionibacterium acnes* colonization.

Doxycycline, second generation of tetracycline, is a broad spectrum antibiotic. It is rapidly and completely absorbed. The anti-inflammatory effect is probably due to their ability to interfere various inflammatory mediators, such as tumor necrosis factor (TNF)-α, interleukin (IL)-1, IL-6, metalloproteinase (MMP), and hydrolase.[19,20]

Retinoid normalizes the hyperkeratinization, reduce follicle occlusion and inflammation.[21] Direct effect to neutrophil may contribute to anti-inflammatory effect of retinoid.[22]

AKN is a benign condition, but extremely chronic, new lesions may continue to form at intervals for years.[6,23] Scarring alopecia is also common in the involved scalp.[1,3,23] Several successful therapies of AKN had been reported, Beckett et al. reported satisfied result with electrocauterization.[2] Ubaidi reported significant result with doxycycline twice daily for 4 weeks, 0.05% clobetasol propionate cream for another 2 weeks, and cryotherapy for large lesions.[10] Raferty et al. reported one case of AKN which is successfully treated with 0.01 tretinoin gel, doxycycline 100 mg/day, and biweekly intralesional steroid.[9] Mayeux reported improvement after using 0.025% tretinoin cream, 0.1% triamcinolone cream, and doxycycline 2x100 mg/day for a month.[24]

This patient received 0.1% mometasone furoate cream (in the morning), 0.025% tretinoin cream (in the evening), and cetirizine 10 mg/day to relieve itching. Injection of triamcinolone acetonide 5 mg/day was also given every 2 weeks. The improvement was initially observed on 2nd week of follow-up, and the result was more significant on 4th week of follow-up.

Combination therapy consisted of topical tretinoin, topical and intralesional steroid, and systemic doxycycline gave good result and can be considered in the management of AKN.

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