

Tinea of vellus hair in extensive tinea incognito.

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ABSTRACT:

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Tinea of vellus hair is defined as dermatophytic infection of the vellus hair. Although it is the infection of glabrous skin, its prognosis is similar to tinea capitis and those patients should receive systemic antifungal therapy since the beginning of the correct diagnosis. Both tinea of vellus hair and tinea incognito can occur simultaneously due to the common sequelae of prolonged use of either topical corticosteroids or systemic corticosteroids. In this article we reported a case of dermatophyte infection in a patient who had been erroneously treated with topical and systemic corticosteroids which led to the alteration of the clinical lesions and caused this patient to have side effects of unnecessary corticosteroids use. Skin biopsy shows fungal elements in the stratum corneum which correlates to the microscopic examination from skin scraping showing septate hyphae and spores around the vellus hair shaft. The fungal culture was positive for *Trichophyton mentagrophytes* var *mentagrophytes* which supports the overall diagnosis of tinea incognito with tinea of vellus hair.

Key words : Tinea of vellus hair, Tinea incognito

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บทคัดย่อ :

สุพัต บุษยะรัตเวช, สุนันท์ บุษยะรัตเวช, เพ็ญวดี พัฒนปรีชากุล, ไฉน เหมือนประสาท, สถิตา มัญญาพันธ์, พรรณแข มไหสวริยะ การติดเชื้อกลากที่ขน VELLUS ในผู้ป่วยกลากลามกว้างที่ได้รับการวินิจฉัยพลาด วารสารโรคผิวหนัง 2555; 28: 176-181.

ภาควิชาจักษุวิทยา, คณะแพทยศาสตร์ ศิริราชพยาบาล

Tinea of vellus hair คือการติดเชื้อกลากที่เส้นขนตามลำตัว (glabrous skin) ไม่ใช่การติดเชื้อที่เส้นผมบนหนังศีรษะ แต่มีการพยากรณ์โรคเทียบเท่ากับโรคกลากที่หนังศีรษะ (tinea capitis) ซึ่งควรให้การรักษาด้วยยาต้านเชื้อราชนิดรับประทานตั้งแต่ต้น และเนื่องจากทั้ง tinea of vellus hair และ tinea incognito สามารถเกิดตามหลังการใช้ยาสเตียรอยด์โดยไม่จำเป็นเป็นระยะเวลานาน จึงทำให้สามารถพบทั้งสองภาวะได้ในผู้ป่วยรายเดียวกัน ผู้เขียนได้รายงานผู้ป่วยโรคกลากหนังศีรษะที่มีประวัติได้รับการรักษาผื่นผิวหนังโดยการใช้ยาสเตียรอยด์ชนิดทาและชนิดรับประทาน โดยไม่ทราบว่าเป็นกลากมาเป็นระยะเวลานาน ทำให้ผื่นผิวยุบไปจากโรคกลากตามแบบฉบับ รอยโรคที่กระจายทั่วตัว และเป็นเหตุให้ผู้ป่วยมีภาวะแทรกซ้อนจากการใช้ยาสเตียรอยด์ ผู้ป่วยได้รับการตัดผิวหนังจากรอยโรคตรวจทางพยาธิวิทยา พบสายราและสปอร์ในชั้นหนังกำพร้า สอดคล้องกับผลการตรวจ KOH examination ที่พบสปอร์ของเชื้อราที่บริเวณขน ผลการเพาะเชื้อพบ *Trichophyton mentagrophytes* var. *mentagrophytes* ซึ่งสนับสนุนการวินิจฉัยโรค tinea incognito และ tinea of vellus hair ในผู้ป่วยรายนี้

คำสำคัญ : กลาก, กลากที่เส้นขน

Introduction

Tinea of vellus hair is dermatophytic infection of the glabrous skin involving the vellus hair. This condition was not well recognized by physician and the appropriate treatment was delayed. Tinea of vellus hair should be suspected in the patients who have history of previous topical corticosteroid administration, presented with more inflammation, follicular micropustules or excoriated lesions compared with the usual feature of tinea corporis. Laboratory findings that support tinea of vellus hair include falling of vellus hair while scraping the skin lesions, presence of ectothrix or endothrix hair

on KOH examination, and the culture revealed zoophilic or geophilic dermatophytes.¹

Case report

A 15 year-old woman presented with pruritic erythematous rash for 1 year. Skin lesions appeared firstly on the left thigh. The diagnosis was dermatitis and she was treated with topical corticosteroid without improvement. Then oral prednisolone was tried in low dose. Itch was dramatically relieved and the redness of skin rash was subsided but the size of lesions still progressively enlarged. The dose of prednisolone was gradually step up to 60 mg/day from time to time but cannot cure the lesions. After five months of treatment,

some of her fingernails had white spot and roughness of the surface. Everybody in her family, her father, mother and grandparents, gradually had a few itchy skin lesions that looked like her skin lesions. They are worried about contagious disease that spread from person to person. Then they came to Siriraj Hospital, Mahidol University. Additional information was that they had a healthy cat pet at home.

Physical examination found multiple annular scaly erythematous plaques over the trunk and extremities. Cushingoid appearance was also noticed. There were dystrophic changes with yellowish discoloration of both thumb nails and right middle fingernail. (Figure 1-2).

According to the history of corticosteroid-unresponsive papulosquamous lesions of the patient and her mother, the consultant dermatologist pondered about pityriasis rubra pilaris (PRP) and annular psoriasis. Because the character of rash was so ambiguous so skin biopsy was taken for histologic study. The section showed neumerous septate hyphae with arthrospores in the stratum corneum and the histologic diagnosis was superficial fungal infection of

the skin. (Figure 3). Consequently, Wood's light examination was performed with negative fluorescence. KOH examination from skin scraping of the lesion on the right arm, abdomen and right middle fingernail demonstrated septate hyphae with arthrospores. Fungal culture was positive for *Trichophyton mentagrophytes* var *mentagrophytes*. Fascinatingly, plenty of vellus hair surrounded by septate hyphae and arthrospores was discovered from the scraping specimens from the lesions on the abdomen and right arm (Figure 4). Microscopic examination with KOH preparation from her mother's skin lesion was also positive and the fungal culture revealed the same dermatophytic species.

Our patient was diagnosed as tinea of vellus hair in extensive tinea incognito. According to the literature, tinea of vellus hair has been suggested as an indication for systemic antifungal therapy, therefore, weekly dosing of oral fluconazole 200 mg. with twice-daily application of topical 1% clotrimazole cream had been prescribed for the patient and her mother. Another family member was advised to have complete skin examination and appropriate plan of treatment.

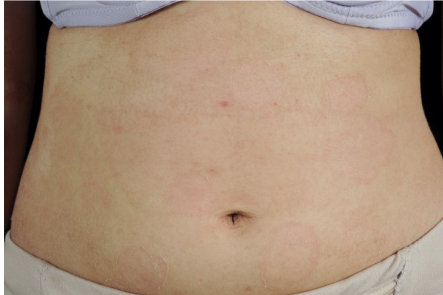


Figure 1 Scaly annular erythematous plaques on the abdomen



Figure 2 Nail dystrophy and discoloration of both thumb nails and right middle fingernail

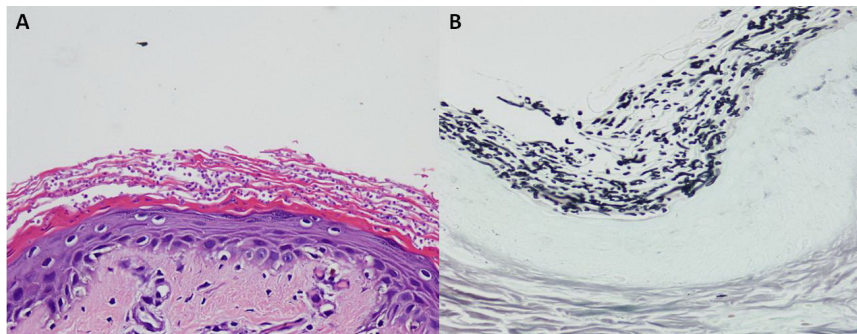


Figure 3 (A and B) Septate hyphae and arthrospores in the stratum corneum layer (A:H&E x 400, B:GMS x 600)

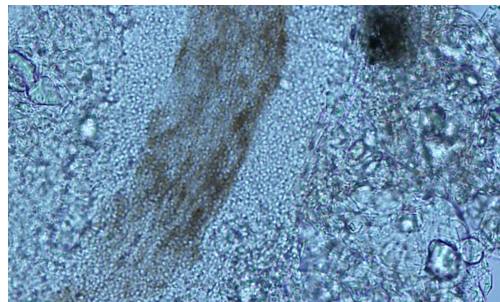


Figure 4 Numerous hyphae and arthrospores around the hair shaft (ectothrix)

Discussion

Although dermatophytosis is one of the most common inflammatory skin disorder, the presentation of skin rash in our patient had been modified by inappropriately use of systemic and topical corticosteroid. Even an experienced dermatologist had

not come up with the accurate clinical diagnosis which caused an unnecessary skin biopsy for the diagnosis of superficial dermatophytosis. Moreover, our patient was suffered from the adverse effect of prolonged use of corticosteroid resulting in Cushing's syndrome. After overall investigations which revealed abundant spores

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on the vellus hair, positive fungal culture and additional history of previous corticosteroid administration, tinea of vellus hair with tinea incognito was most likely for the definite diagnosis.

The first case of tinea of vellus hair was reported by Eby and Jetton in 1971.² *Nannizzia incurvata* (currently *Arthroderma incurvatum*, teleomorph of *Microsporum gypseum*) was found within vellus hair of a 3 year-old child who was diagnosed as tinea faciei.² In general, systemic antifungal therapy is indicated in tinea capitis and tinea unguium while tinea of glabrous skin can be adequately treated with topical antifungal medication as monotherapy except for extensive involvement, recurrence, or in immunocompromised hosts.¹ However, some cases of tinea corporis which were treated with topical antifungal monotherapy remain recalcitrant to the therapy. One possible explanation can be the tinea of vellus hair whose prognosis is comparable to tinea capitis and tinea barbae. Thus, the patients with tinea of vellus hair should be intently treated with systemic antifungal therapy.¹

Gomez-Moyano E and Crespo-Erchiga E¹ reported 13 cases of tinea of vellus hair and summarized the diagnostic clues of the disease which included

- Inflammatory and/or excoriated lesions of tinea corporis or tinea faciei
- Follicular micropustules
- Previous use of topical corticosteroids
- Resistance to topical antifungal therapy
- Falling of short and fine hairs to slide by scraping

- Parasitism endothrix/ectothrix under potassium hydroxide examination
- zoophilic or geophilic species identification

In this previous report 62% of patients contacted with domestic animals of which was corresponding to our patient as well.

The first case of tinea incognito was reported in 1968³ as the result of topical corticosteroid and calcineurin inhibitor³⁻⁷. These medications altered the primary cutaneous lesions that became a mimicry of other dermatoses such as discoid lupus erythematosus, eczema, folliculitis, psoriasis, seborrheic dermatitis and lichen planus.⁴

In conclusion, since both tinea incognito and tinea of vellus hair share the same risk factor of corticosteroid use and both conditions can occur harmoniously in the same patient, therefore, the physicians should maintain a high index of suspicion and always be aware of tinea of vellus hair in every cases of tinea incognito. Systemic antifungal medication is recommended.

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