Tinea capitis incognito in adult: A case report

Waroonphan Leecharoen MD,
Charussri Leeyaphan MD,
Sumanas Bunyaratavej MD.

ABSTRACT:

LEECHAROEN W, LEEYAPHAN C, BUNYARATAVEJ S. TINEA CAPITIS INCOGNITO IN ADULT: A CASE REPORT. THAI J DERMATOL 2018; 34: 225-230.

DEPARTMENT OF DERMATOLOGY, FACULTY OF MEDICINE SIRIRAJ HOSPITAL, BANGKOK, THAILAND

Tinea capitis is a superficial fungal infection of the hair and scalp caused by dermatophytes, usually *Trichophyton* and *Microsporum* species.[1] Tinea capitis is common in children, while it occurs in adults who are immunocompromised or postmenopausal. Clinical manifestation of tinea capitis is highly variable, including grey patch, black dot, pustules, kerion, and favus. Tinea capitis in adult patients may have different clinical manifestations from those in children, which lead to the difficulty in diagnosis and consequently delay in treatment. Moreover, the lesions that have been treated with corticosteroids could potentially change to mimic other scalp diseases. We reported a 64-year-old woman with tinea capitis mimicking scalp dermatitis and receiving topical steroid. Trichoscopy and wood lamp's examination help to make the diagnosis. KOH preparation and fungal culture are valuable to confirm the diagnosis and determine the causative organisms.

Key words: tinea capitis, tinea incognito, adult

From: Department of Dermatology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand
Corresponding author : Sumanas Bunyaratavej MD., email : consultskin@yahoo.com

บทคัดย่อ:

วรุณย์พันธุ์ ลี้เจริญ, จรัสศรี ผียาพรรณ, สุมนัส บุณยะรัตเวช รายงานผู้ป่วยโรคกลากศีรษะที่ได้รับการรักษาด้วยการทาสเตียรอยด์มาก่อนในผู้ใหญ่ วารสารโรคผิวหนัง 2561; 34: 225-230.

ภาควิชาตจวิทยา คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล

โรคกลากศีรษะ เป็นการติดเชื้อราชั้นตื้นของเส้นผมและหนังศีรษะ ซึ่งเกิดจากเชื้อกลากสายพันธุ์ Trichophyton และ Microsporum ส่วนใหญ่พบในวัยเด็ก ส่วนในวัยผู้ใหญ่ที่เสี่ยงต่อโรคนี้คือผู้ป่วยที่ภูมิคุ้มกันบกพร่องและหญิงวัยหมดประจำเดือน โดยอาการแสดงของโรคกลากศีรษะทั่วไป ได้แก่ ผื่นขุยสีเทา จุดสีดำ ตุ่มหนอง ก้อนอักเสบ และเส้นผมผิดปกติ เป็นต้น แต่อาการของโรคนี้ในวัยผู้ใหญ่อาจแตกต่างไปจากในเด็ก ทำให้วินิจฉัยได้ยากและนำไปสู่การรักษาที่ล่าช้า ยิ่งไปกว่านั้นหากผู้ป่วยได้รับการทาสเตียรอยด์มาก่อน อาจทำให้รอยโรคเปลี่ยนแปลงไปจนดูคล้ายคลึงกับโรคหนังศีรษะอื่นๆได้ รายงานนี้นำเสนอผู้ป่วยหญิงอายุ 64 ปีที่มีโรคกลากศีรษะและได้รับการรักษาด้วยการทาสเตียรอยด์มาก่อน การตรวจด้วยกล้องส่องขยายดูหนังศีรษะและเส้นผม รวมถึงการตรวจด้วย Wood lamp จึงมีส่วนช่วยในการวินิจฉัยเบื้องต้น สำหรับการตรวจหาเชื้อราด้วยกล้องจุลทรรศน์และการเพาะเชื้อรา ยังมีความจำเป็นในการวินิจฉัยโรคและระบุเชื้อก่อโรคอีกด้วย

คำสำคัญ: โรคกลากศีรษะ, โรคกลากที่ทาสเตียรอยด์มาก่อน, ผู้ใหญ่

Case report

A 64-year-old woman presented with pruritic papules and plaques on her scalp for 2 months. She was diagnosed as scalp dermatitis and received 0.1% triamcinolone acetonide lotion to apply twice daily. But the scalp lesions worsened and progressed to her face, neck and right forearm within 1 month. Her underlying disease was rheumatoid arthritis that had been treated with sulfasalazine 500 mg/day, prednisolone 5 mg/day, methotrexate 10 mg/week, sulindac, and leflunomide. She reported that her neighbor owned many cats, but she denied having any close contact with them.

Physical examination revealed multiple discrete ill-defined annular scaly erythematous plaques on scalp, face, neck and right forearm. (Figure 1,2) Wood's lamp examination showed green fluorescence on the lesions. (Figure 3) Trichoscopy showed comma and dystrophic broken hairs. (Figure 4) Nails were normal. KOH preparation revealed ectothrix hair infection from specimen obtained from scalp (Figure 5) and septate hyphae with arthrospore from other skin lesions. Fungal cultures were positive for *Microsporum canis*. The patient was treated with griseofulvin 1000 mg/day for 1 month, selenium disulfide shampoo for daily

hair wash, and clotrimazole cream 1% for other skin lesions.

Figure 1 multiple discrete ill-defined annular scaly erythematous plaques on scalp

Figure 2 multiple discrete ill-defined annular scaly erythematous plaques on scalp

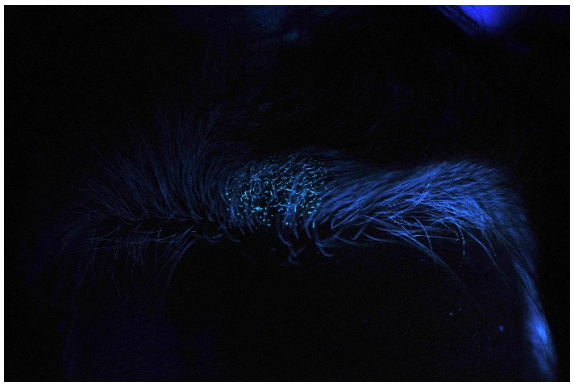

Figure 3 Wood's lamp examination showed green fluorescence on the lesions

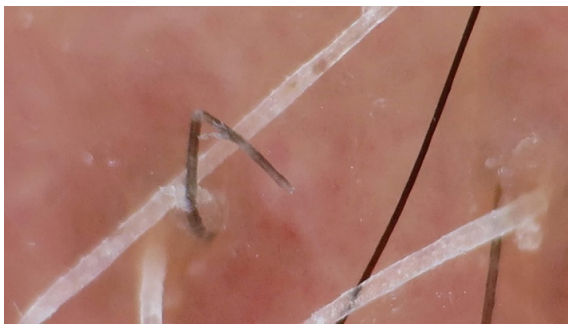

Figure 4 Trichoscopy showed dystrophic broken hairs

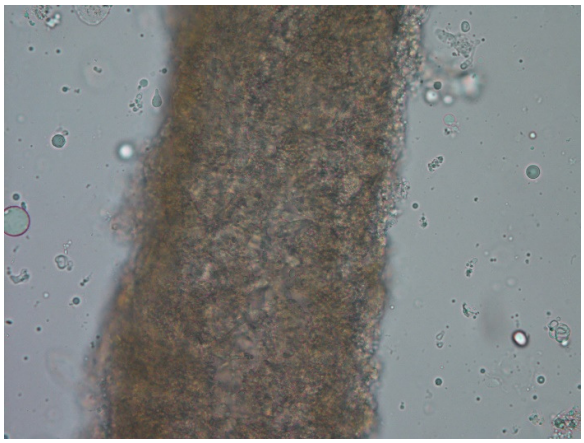

Figure 5 KOH preparation revealed ectothrix hair infection

Discussion

Tinea capitis is a superficial fungal infection of the hair and scalp caused by dermatophytes. Tinea capitis is more common in prepubertal children, but rare in adults. Adults' scalp hair is lowly susceptible to dermatophyte infection because of the fungistatic effect of long-chain fatty acids in the sebum.[2]

The prevalence of tinea capitis in adults is different in each geographical area. Asia has the highest prevalence of adult tinea capitis, particularly in Taiwan. Most of adult patients with tinea capitis were immunodeficiency due to underlying diseases such as diabetes mellitus, HIV infection and anemia, or receiving corticosteroids and other immunosuppressants. However, tinea capitis can also affect the immunocompetent host, especially in postmenopausal women. The theory was explained by the decreased blood estrogen levels, leading to the involution of sebaceous glands.[2] The clinical presentation in adults is often atypical; resembling impetigo, scalp cellulitis or folliculitis decalvans. This atypical presentation and rarity in adults often lead to delay in diagnosis and treatment.[3]

The causative pathogen of tinea capitis also varies in different geographical areas. In the United Kingdom, the United States, and Canada, *Trichophyton tonsurans* is the most common pathogen, while *Trichophyton violaceum* is in the most common one in Africa and some countries in Asia. *Microsporum canis* is a zoophilic dermatophyte which is a common pathogen in Europe, China and Thailand.[2]

Tinea incognito is the dermatophyte infection which clinical presentation has been changed by previous corticosteroids or immunomodulators treatment. The lesions usually show less raised margin and less scale; but tend to be more extensive, pruritic, erythematous and have more pustules. It can mimic other skin diseases, particularly eczema; followed by inflammatory disease, autoimmune disease or other infectious conditions. Tinea faciei and tinea corporis are commonly involved. The most common pathogen

is *T. rubrum*.[4] On the contrary, tinea capitis incognito has been reported only in a few cases with clinical manifestation mimicking folliculitis.[4,5] Tinea incognito should be treated with oral antifungal drugs in regular duration. However, in case of severe skin infection, or tinea capitis that associates with tinea unguium, longer duration of therapy may be needed.[6]

Trichoscopy is a quick, non-invasive, and inexpensive technique that may help to make the diagnosis. There are many trichoscopic features in tinea capitis, such as comma hair, cadaverized hair, corkscrew hair, coiled hair, broken hair, frayed hair, split ends, hemorrhagic spots, honeycomb pigment network, yellow dots, black dots, thin hair, white areas, loss of follicles, perifollicular erythema and scaling. In the past, comma hair and corkscrew hair were reported to be the specific markers for tinea capitis. The morse code hair (bar code-like hair) is a new trichoscopic finding of tinea capitis which consists of horizontal white bands that are related to the areas of fungal infection. But in recent study, perifollicular scaling with dystrophic hair or with short broken hairs might be a specific trichoscopic pattern of tinea capitis.[7] Moreover, the disappearance of dystrophic hair or the resolution of corkscrew hair may be used to predict the time of a clinical cure.[8] To date, there are no specific trichoscopic features of tinea capitis incognito. However, tinea corporis incognito with vellus hair infection has been reported to have the morse code hairs in trichoscopic finding.[9]

The goals of therapy are elimination of the causative pathogen, leading to both clinical and mycological cure, prevention of scarring and reduction of transmission to others. Topical therapy alone is not recommended for tinea capitis. Even though the topical antifungal agents can be used as adjunctive treatments to reduce the transmission of spores. Oral therapy is necessary to achieve the aims of treatment. The effective antifungal drugs for tinea capitis include griseofulvin, terbinafine, itraconazole and fluconazole.[1] According to the organism, terbinafine has higher efficacy against *Trichophyton*, whereas griseofulvin may be superior for *Microsporum*.[1,10] However, terbinafine may be appropriate for elderly patients due to its less side effects and drug interactions. The recommended duration of treatments are at least 8 weeks of griseofulvin and 4 weeks of terbinafine. In case of clinical cure without mycological cure, continuation of current therapy for 2–4 weeks is highly recommended. If the patient shows no improvement after initial therapy, the alternative therapy should be considered.[1]

In conclusion, adult tinea capitis is not so rare and might be a concern in postmenopausal women and immunocompromised patients. The clinical presentation may be more atypical due to previous steroid use. Thus, trichoscopy and mycological investigation should be done to make the diagnosis especially in suspected cases who had alopecia, broken hairs, and scaly scalp lesions. The main treatment is oral antifungal drug until clinical and mycological cure.

References

1. Fuller LC, Barton RC, Mohd Mustapa MF, Proudfoot LE, Punjabi SP, Higgins EM. British association of dermatologists' guidelines for the management of tinea capitis 2014. Br J Dermatol.2014;171:454-63.
2. Khosravi AR, Shokri H, Vahedi G. Factors in etiology and predisposition of adult tinea capitis and review of published literature. Mycopathologia. 2016;181:371-8.
3. Ahmed SM, Rather SR, Kousar H, Bukhari S. Tinea capitis in adults: not so rare. Int J Res Med Sci 2016;4:5426-9.
4. Dutta B, Rasul ES, Boro B. Clinico-epidemiological study of tinea incognito with microbiological correlation. Indian J Dermatol Venereol Leprol.2017;83:326-31.
5. Ansar A, Farshchian M, Nazeri H, Ghiasian SA. Clinico-epidemiological and mycological aspects of tinea incognito in Iran: A 16-year study. Med Mycol J.2011;52:25-32.
6. Kastelan M, Prpić Massari L, Simonic E, Gruber F. Tinea incognito due to Microsporum canis in a 76-year-old woman. Wien Klin Wochenschr.2007;119:455.
7. Campos S, Brasileiro A, Galhardas C, Apetato M, Cabete J, Serrão V, et al. Follow-up of tinea capitis with trichoscopy: a prospective clinical study. J Eur Acad Dermatol Venereol. 2017;31:478-80.
8. Richarz NA, Barboza L, Monsonís M, González-Enseñat MA, Vicente A. Trichoscopy helps to predict the time point of clinical cure of tinea capitis. Australas J Dermatol.2018.
9. Gómez Moyano E, Crespo Erchiga V, Martínez Pilar L, Martinez García S. Correlation between dermoscopy and direct microscopy of morse code hairs in tinea incognito. J Am Acad Dermatol. 2016;74:7-8.
10. Chen X, Jiang X, Yang M, Bennett C, González U, Lin X, et al. Systemic antifungal therapy for tinea capitis in children: An abridged Cochrane Review. J Am Acad Dermatol.2017;76:368-74.