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Original Research Article

Encountering steroid treatment induced tinea incognito: a case report

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ABSTRACT

Tinea incognito refers to a type of dermatophyte infection that affects the skin, and its signs and symptoms upon presentation tend to appear permutated due to the prior use of immunosuppressants, corticosteroids or calcineurin inhibitors. We present a 42-year-old Asian (Indian) male patient with scaly erythematous rashes, mimicking annular erythema, and developing post-corticosteroid usage after an elective hair transplant procedure. The results of the biopsy reported that erythema annulare centrifugum (EAC) was absent, and the sample was suggestive of potential infective folliculitis. By day 3 of the presentation, with fungal stain tested positive for the presence of fungal infection. Based on this, the final diagnosis of tinea incognito was made. The final treatment prescribed for tinea incognito was an anti-fungal tablet of Itraconazole at a dose of 100 mg twice a day for 4 weeks, topical luliconazole, ciclopirox and anti-histamines for itching. Topical corticosteroids can change the clinical appearance of tinea by reducing erythema and scaling while enabling the fungus to grow freely without presenting the typical clinical indications of tinea. Practitioners should follow patients on corticosteroid treatment to alert them to potential cutaneous problems due to possible fungal infections, whenever warranted.

Keywords: Tinea incognito, Anti-fungal therapy, Corticosteroids, Immunosuppressant

INTRODUCTION

The term dermatophytosis or tinea reflects a wide range of fungal infections that can affect the skin, hair, and nails. Tinea infections can be differentiated by the area of the body affected, and the degree of the infections caused. Patients with decreased immune response, related co-morbidities like diabetes mellitus, old age as well as children, patients with altered or poor circulation, and corticosteroid use possess more risk of developing a dermatophyte infection.

When these infections are superficial in nature, they can be symptomatically diagnosed based on their typical presentation signs. Nowadays, there have been numerous reports regarding the presentations of tinea being quite atypical like clinical signs and symptoms, which more often than not may lead to misdiagnosis or a late diagnosis.[1-3]

Tinea incognito refers to a type of dermatophyte infection that affects the skin, and its signs and symptoms upon presentation tend to appear permutated due to the misuse of corticosteroids or calcineurin inhibitors.[4,5]

The emergence of tinea incognita may resemble the clinical presentations of rosacea, eczema, lichen, psoriasis, lupus, viral infections, impetigo, or seborrheic dermatitis. Moreover, it has been mostly seen to manifest itself in patients with previous skin conditions such as psoriasis which was managed using mostly topical medication regimens. Mostly prevailing amongst psoriatic patients, the onychomycosis and tinea pedis often present as tinea incognito. The cause of their atypical presentation is mostly attributed to the

administration of immunosuppressive drugs and corticosteroids as a part of the drug regimen used for the treatment of psoriasis.[6]

Despite the fact that the interrelationship between a few non-dermatological diseases and psoriasis is well elucidated scientifically, there haven't been extensive reports on dermatological comorbidities themselves and their relationship with tinea incognito.[7]

CASE REPORT

A 42-year-old male presented to the dermatology department with the chief complaints of red eruptions with itching on the neck, anterior and posterior aspects of the trunk, axillary region, groin, and buttocks, extending towards distal aspects of all four limbs since 2 days. The patient did not have any known allergies to medicines or food; and had no recent contact with known allergens, travel, or known sick contacts. The patient is a known case of bronchial asthma on deriphyllin, using inhalers for budesonide and levosalbutamol since more than a year ago, for the management of his symptoms. The patient has been recently diagnosed with hypertension for which he took tablet telmisartan for one day, followed by a change to tablet olmesartan medoxomil 10mg taken for 4 days prior to presenting with rashes. His HbA1c was recorded as 5.7%.

Figure 1: Eruptions with itching as seen on the back.

History of the presentation includes the patient electively undergoing a hair transplant procedure at another facility 7 days back, after which he was prescribed the following medications: oral pantoprazole 40 mg once a day for 5 days, Oral Amoxicillin and clavulanic acid 625 mg twice a day for 5 days, an oral tablet of a fixed-dose formulation containing diclofenac 50 mg + paracetamol 325 mg + serratiopeptidase 15 mg to be taken SOS, oral corticosteroid betamethasone sodium phosphate 2 mg, pre and pro-biotic capsules fortified with lactobacillus to be taken once daily, and topical formulation of mupirocin for external application. A hair vitamin tablet consisting of biotin, amino acids, minerals, vitamins, soya isoflavones, and grape seed extracts were given for 6 months, along with topical minoxidil 5%. Betadine solution and normal saline were to be used for wound care. This regimen was followed by the patient for a period of 7 days prior to presenting with the complaint.

Because the patient's scaly skin lesions were erythematous and patches exhibited ring-like morphology with a few having central clearing, with the presence of pustules or vesicles, the working diagnosis was presumed to be annular erythema. Our differential diagnosis included a flare of psoriasis with annular lesions, tinea corporis or tinea incognita, and erythema annulare. Blood tests did not reveal any abnormalities. A sample of the skin was sent for examination via biopsy, for a definitive diagnosis. The other working differential diagnoses included erythema annulare centrifugum (EAC), erythema perstans, and erythema multiforme. A fungal stain was also conducted on the scaling obtained superficially from the annular lesions in order to rule out the possibility of fungal infection.

Meanwhile while awaiting biopsy results, the patient was empirically initiated on tablet hydroxyzine hydrochloride 25 mg HS for 2 weeks, tablet fexofenadine hydrochloride 180mg twice a day for 1 week, tablet ranitidine 300 mg before breakfast for 10 days, tablet prednisolone 30 mg after breakfast for 10 days, cream halobetasone (0.05% w/w) + fusidic acid (2% w/w) topical application on the affected area for 15 days, and calamine lotion for local application on SOS basis. The infection prophylaxis for biopsy sutures was tablet azithromycin 250mg twice daily to be taken for 5 days.

The results of the biopsy reported that EAC was absent, and the sample was suggestive of potential folliculitis. By day 3 of the presentation, the fungal stain tested positive for the presence of fungal elements. Based on this, the final diagnosis of tinea incognito was made.

The corticosteroid dose was prescribed at a 2-day dose reduction/ tapering regimen and the patient was advised to stop the use of halobetasone and fusidic acid. The final treatment prescribed for tinea incognito was an anti-fungal tablet of itraconazole at a dose of 100 mg twice a day for 4 weeks, topical luliconazole lotion (1% w/w) for external application at night, a ciclopirox (1% w/w) ointment to be applied during the day for 4 weeks. Oral administration of 25 mg hydroxyzine was advised to be continued once daily for the following 2 weeks. The patient improved on treatment and clinical cure was observed on subsequent follow-ups.

DISCUSSION

Tinea incognito is difficult to diagnose since it is similar to other non-infectious skin diseases and rashes. To avoid opportunistic cutaneous infections, patients on corticosteroid medication must be closely monitored. Misdiagnosis or delayed diagnosis of tinea can pose a practical and epidemiologic issue.

When patients on any form of immunosuppressive agent present to clinics with increasing widespread scaly erythematous skin eruptions and pruritus, concurrent tinea incognito should be investigated, and a potassium hydroxide (KOH) study and/or biopsy should be sent to obtain a specific diagnosis.

The usage of corticosteroids can change the clinical appearance of tinea by reducing erythema and scaling while enabling the fungus to grow freely without presenting the typical clinical indications of tinea. Tinea incognito has a wide range of clinical symptoms, including rosacea, eczema, lichen, psoriasis, lupus erythematosus, viral infections, neurodermatitis, impetigo, contact dermatitis, and seborrheic dermatitis; and hence must be carefully evaluated to avoid exacerbation of the main underlying disease.[8,9]

CONCLUSION

Dermatophyte infections are prevalent these days due to the use of corticosteroids or immunosuppressive therapies which lead them to have atypical presentations, often about a predisposing factor. To recapitulate, an adult male patient with a history of steroid use with regards to hair transplantation procedure presented with annular lesions that were diagnosed as tinea incognita when the mycology testing was positive for fungal infection, and the skin biopsy was negative for suspected EAC. The antifungal treatment was administered, and the lesions resolved.

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