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Case Report

Extensive 'Tinea Incognito' Due to Topical Steroid: A Case Report

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Abstract

Fungal skin infection is a common phenomenon seen in adults. Tinea incognito is a fungal infection (mycosis) of the skin caused by the presence of a topical immunosuppressive agent, like topical steroids which are used as "over the counter drug". This causes the fungal infection to lose its characteristic features and renders the infection no longer diagnostic and making the cure slower and expanding infection area growth slowly expanding growth with poorly defined borders: skin atrophy, telangiectasia, and florid growth.

Keywords: skin infection, fungal infection, female, OTC, steroid modified.

Introduction

Fungal skin infection is a common phenomenon seen in adults. It tends to affect different parts of the body, including hair, nails and skin. Topical steroids are being often prescribed in dermatology for various skin lesions and also being used often by patients as over the counter medications (OTC).This leads to diverse clinical presentation. This case report is iatrogenic dermatosis due to patient application of OTC as Jan et al., (2009) and Kastelan et al., (2009) mentioned. Microscopy, cultures and punch biopsy with periodic acid Schiff stain (PAS) are useful for diagnosis, and topical and systemic antifungal are the main for treatment of such cases as Segal et al., (2013) explained.

Tinea incognito continues to be a diagnostic challenge yet to expert professionals because of modified clinical presentation that occurs because of inappropriate use of topical steroids for a cutaneous fungal infection. What is a slow process and highlights the hazard of misdiagnosis and mistreatment which render the disease more contagious and make treatment more difficult and prolonged. To the best of my knowledge, this is the first reported case in the literature from Libya.

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Case Presentation

A healthy 22-year-old white Libyan female presented with an extensive multiple, itchy, scaly, 12 x 7 cm, red-brownish skin lesion, covering almost the whole buttock area including the sides. The patient reported that, her initial skin lesion started a month ago as a trivial circular skin lesion that became wider. Without seeking medical advice, she applied a cream that she had at home for two weeks time, and when the lesion has gotten worse, she decided to seek medical help. The patient reported no blaming factor for the initial skin rash, however she noticed that the lesion got more intense and itchy following the cream application, and felt a lot of discomfort. Also she noticed that the lesion expanded more with center fading out.

Physical examination revealed multiple scaly patches with some plaques which spread over the entire buttocks including the sides. The lesions were concentrated circular, erythematous, with some coalescing to form moderately infiltrated areas, and some surrounded with well-defined raised borders with a central fading. My provisional differential diagnosis was fungal infection (tinea corporis), steroid-modified fungal infection, mycosis fungoids (MF), post inflammatory skin hyper-pigmentation (PIH).

The characteristics appearance of tinea corporis is the oval or circular, sharply demarcated lesion, with scaly, elevated borders. However, the eruption sometimes can be pustular, vesicular or eczematous.

Based on clinical grounds and the patient history, I diagnosed it as 'Tinea Incognito'. Although the fungal infection is a clinical diagnosis, I have sent the patient scales for mounted potassium hydroxide (KOH) examination to rule out fungal infection, and the result did not reveal fungal elements, as it was expected to be negative because the actual lesion has been modified by the application of medium potency steroids. Also sending the case for fungal culture and biopsy would help identify the main culprit fungal infection, but that facility is not available at our hospital, thus it was not performed. The literature in most cases found that 'Trichophyton rubrum' was the main causative agent for an extensive rash, and is the most common cause of 'tinea corporis' as Jan et al., (2001) and Segal et al., (2013) pointed. There is no need for a histo-pathological examination in such a case as the patient has self-administrated topical steroids and she brought up that package with her (Betamethasone 0.1% w/w valerate cream). I instructed the patient to discontinue the offending medication immediately and to apply local anti-fungal cream twice a day with some antihistamine to alleviate her intense itching, and to come back for a follow up after a week. When she came back, she has dramatically improved and the lesions were under control and the patient was really content with such an outcome.

Steroid-modified fungal infection (steroid-modified tinea), otherwise known as tinea incognito, is a fungal infection (mycosis) of skin that caused or modified by a topical immunosuppressive agent. The usual agent is a topical corticosteroid application locally as Jan et al., (2009) and Kastelan et al., (2009) mentioned. Usually the culprit is a strong fluorinated steroid, but also milder steroids can trigger such a lesion (i.e. 1% hydrocortisone cream). Topical steroids lessen the inflammation and give a false impression of improvement while the dermatophyte flourishes under the cover of the immune suppression.

The virulence of an organism and its invasive ability, site of infection and host immunity, all play an important factor that contribute to the clinical presentation as Segal et al., (2013) explained. My patient did not feel any improvement following topical steroids application. This could be explained as maybe the lesion was extensive and flared with the steroids. Also such a patient could have been a source of an epidemic due to

accumulated fungus in her skin and closeness with amenities.

My patient had the classical picture of steroid modified fungal infection. The hallmark for it is the central clearing with active edges as the figure displays. Typical locations can affect any site of the body. Certainly sometimes misdiagnosed can be a reason due to alteration in the initial presentation due to the random misuse of dermatological preparations “over-the-counter” as Solomon stated (2009). Mycosis fungoids (MF) has been considered as a differential diagnosis as earlier stages of MF could present with such an exact picture (patch phase), however considering the patient age, duration of symptoms and the history of medication had driven my mind away of the mycosis fungoids. But in case of doubt we need to send for a skin biopsy to rule out.

Conclusion

This case illustrates steroid-modified tinea infection and highlights the importance and the value of obtaining a pathological confirmation of the diagnosis. Experienced dermatologist should not miss such a case; however many times such patients go misdiagnosed and mistreated as dermatitis and get prescribed topical steroid, with an impact, which makes such patients more contagious and their cure is more difficult and prolonged.

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