Case report

Pityriasis amiantacea-like adult tinea capitis favosa due to *Trichophyton schoenleinii*

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Summary

Pityriasis amiantacea is a reaction pattern with excessive scaling of the scalp reported to occur in several inflammatory dermatoses. A 27-year-old Egyptian male had presented with localized scaling and crusting of the scalp. The condition was misdiagnosed as eczema and was treated unsuccessfully with various topical anti-inflammatory and keratolytic agents for 3 years. At presentation, pityriasis amiantacea-like scalp lesion was evident. Mycological examination confirmed fungal nature of the lesion and *Trichophyton schoenleinii* was isolated as the causative agent. A possibility of fungal infection of the scalp in any adult with atypical lesion not-responding to treatment should be considered.

KEY WORDS: pityriasis amiantacea; favus; *Trichophyton schoenleinii*; Egypt.

Introduction

Favus or tinea capitis favosa is a chronic dermatophyte infection of the scalp. It is characterized by the presence of scutula and severe alopecia. In about 90% of cases, favus is caused by the anthropophilic dermatophyte, *Trichophyton (T) schoenleinii* (1, 2). Other species could rarely be implicated. It is the anthropophilic species, *T. violaceum*, zoophilic species, *T. verrucosum*, *T. mentagrophytes* and *Microsporum canis* and geophilic species, *Microsporum gypseum* (3). Favus could occur during childhood or adolescence and persists to adulthood in case of absence of treatment (3, 4). Contrary to the other types of tinea, favus favosa does not disappear until puberty but persists as long as there is hair. Its evolution is slow (3). Pityriasis amiantacea is a particular reaction pattern of the scalp seen in a number of inflammatory and infectious dermatoses such as seborrheic dermatitis, psoriasis, atopic dermatitis, contact dermatitis, lichen planus, pityriasis rubra pilaris and various superficial pyogenic or fungal infections. The clinical diagnosis can be confirmed with histopathological, bacteriological and mycological examinations to diagnose the underlying disease (5).

Although it is considered to be rare in adults, tinea capitis should be considered in the differential diagnosis in elderly patients with scalp lesions (6).

Case report

A 27-year-old male living in Cairo, Egypt, was presented at the Department of Dermatology, Al-Hussein University Hospital with asymptomatic scalp lesion of 3 years duration. Examination revealed scaly, crusted patch about 10 by 10 cm in diameter located on the frontal area. Thick yellowish scales encircle the hair shafts and bind down tufts of hair were present. The hair was very easily and painlessly pluckable. Within the lesion, patch of hair loss was observed with erythema and erosions (Figure 1).

The patient had been repeatedly treated unsuccessfully with various topical anti-inflammatory and keratolytic agents for 3 years. No other dermatological abnormality was observed and no history of diseases of medical significance. Routine laboratory tests were within normal range. A Wood’s light examination revealed a dull-bluish fluorescence (Figure 2). Direct microscopy of the hair stumps mounted in a drop of 20% potassium hydroxide solution revealed hyphae and air spaces within the hair shafts (favic pattern). Culture on Sabouraud’s dextrose medium with antibiotics and cycloheximide revealed slow-growing, waxy, cream-colored colony with a deeply folded and honey-comb-like surface. No reverse pigmentation was present (Figure 3). Post-culture microscopy showed numerous chlamydoconidia with no macroconidia or microconidia. The hyphae were irregular, dichotomously branched with characteristic favic chandeliers and antler-like hyphae (Figure 4). A scalp biopsy was planned as complementary procedure but the patient refused. A diagnosis of pityriasis amiantacea-like adult tinea capitis favosa due to *T. schoenleinii* was made. The therapy consisted of topical antifungal cream and shampoo and systemic antifungal agent. At one month follow-up, the scales encircle the hair shafts and scalp erythema had markedly ameliorated. At the planned second follow-up visit, the patient was lost to follow-up.
Discussion

*T. schoenleinii* is an important anthropophilic dermatophyte that causes tinea favosa and is transmitted by contact between humans. It is currently endemic in Africa (7). Besides the classical clinical type of tinea capitis favosa, there are many clinical variants which may persist undiagnosed for many years (2, 3). *T. schoenleinii* was a widespread trigger of family epidemics in Europe in the 18th century. Favus in the last few years has almost disappeared from developed European countries but is found in the densely populated areas of Africa (8). It can still be present in hot humid countries where the population suffers from poor hygiene and malnutrition. This can be applied on Egypt.

Favus is typically a childhood disease, yet adult cases are not uncommon (3). Favus could occur during childhood or adolescence and persists to adulthood in case of absence of treatment (3, 4). In this case, the condition started after puberty at the age of 24 year. The classical favus lesion is the scutula, a yellowish cup-shaped crust on the scalp from where come out dull grey hair. The scalp is characterized by an unpleasant “mousy” odor. The parasitized hair will fall down causing a final alopecia (3). Besides this clinically typical form, there are atypical tinea favosa which makes about 5% of the cases. In presence of scaly patches without alopecia, favus could be similar to seborrheic dermatitis, psoriasis or pityriasis amiantacea (3, 7, 9).

Pityriasis amiantacea is characterized by scaling of the scalp. The scaling is white yellowish, thick, “asbestos-like” and binds down tufts of hair (10). In this
case, the lesions showed thick yellowish scales encircling the hair shafts and bind down tufts of hair mimicking pityriasis amiantacea. The distinction between pityriasis amiantacea and such atypical favus of the scalp may be difficult on clinical ground and doing mycological examination should be considered. Also, patches of hair loss with crusted, erythematous and eroded scalp skin were observed. This, besides the absence of scutula makes the clinical diagnosis of tinea favosa more difficult.

Interestingly, favus is less contagious than other dermatophytoses, although intra-familial infections are reported and have been widely discussed in the literature (3). Based on history, thorough clinical examination and Wood’s light screening, no one of the patient’s family members was affected by scalp or other dermatophytosis confirming that favus is less contagious than other dermatophytoses. Despite 3 years history of the scalp lesion, infectivity of tinea favosa seems to require longer periods of family exposure or other close contacts (e.g. in workplaces).

The differential diagnosis of such case includes variety of scalp conditions including pityriasis amiantacea, ringworm, seborrhoeic dermatitis, psoriasis, atopic dermatitis and the rare folliculitis decalvans. In cases of pityriasis amiantacea, the scales have asbestos-like appearance, overlapped and adherent to the hair and encasing them like a sheath (11). The presence of scaling, hair loss with or without broken hairs and with or without erythematous patches should raise suspicion of scalp ringworm. It is important to rule out the possibility of tinea capitis which will have different therapeutic considerations.

Seborrhec dermatitis of the scalp presents as areas
of erythema covered by yellow, greasy scales. Lesions often extend beyond the margins of the hair onto the forehead and behind the ears. The condition may be associated with transient alopecia. Psoriasis of the scalp presents as well demarcated erythematous plaques covered by thick silvery scales. In severe involvement the plaques cover the entire scalp. Frequently the psoriatic lesions extend beyond the hairline, most often to the forehead and into postauricular regions. Hair loss is not common. If there are no psoriatic lesions elsewhere, it may be very difficult to distinguish psoriasis from seborrheic dermatitis (12). In atopic dermatitis, the presence of marked excoriation with less scaling, lichenification and evidence of other atopic criteria elsewhere in the body is usually sufficient for clinical diagnosis.

The hallmark of folliculitis decalvans is the development of scarred areas and follicular pustules. Livid to bright erythema together with yellow-gray scales can be present especially around the follicles as well as follicular hyperkeratosis, erosions, and hemorrhagic crusts (13). In all scalp conditions, itching is variable except in atopic dermatitis which is common and usually severe. Folliculitis decalvans may present with combination of pain and itch. In all cases, exclude tinea capitis (by mycology workup). Examine for other signs of seborrheic dermatitis, psoriasis or atopic dermatitis.

Based on the clinical and mycological data, a diagnosis of tinea favosa caused by T. schoenleinii was made. The patient presented an atypical pityriasis amiantacea–like variant of favus caused by T. schoenleinii. In any unusual lesion of the scalp posing differential diagnosis challenges to fungal skin infections. BMC Infect Dis. 2013;13:74.

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References


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None.

Conflicts of interest
None.