

# Kerion mimicking bacterial infection in an elderly patient

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## ABSTRACT

Tinea capitis is generally thought to be a common disease in children but not in adults. When infection does occur in adults, it may have an atypical appearance. We report an elderly female with inflammatory tinea capitis caused by *Trichophyton rubrum*. She had numerous pustular lesions throughout the scalp with alopecia, initially treated for bacterial infection. We concluded that tinea capitis should remain in the differential diagnosis of elderly patients with alopecia and pyoderma like presentations and culture test should be routinely done in such patients to avoid complications.

**Key words:** Elderly, kerion, trichophyton rubrum

## INTRODUCTION

Tinea capitis is a fungal infection of the scalp and hair, which is seen predominantly in preadolescent children. Tinea capitis may be rare in adults due to the fungistatic saturated fatty acids in sebum that appears at puberty. Tinea capitis in adults generally occurs in immunocompromised patients. In immunocompetent adults, the clinical features are often atypical.<sup>[1]</sup> The vast majority of dermatophytes involved in the etiology in children and adults are limited to the genera *Microsporum* and *Trichophyton*.<sup>[2]</sup> In contrast to its dominating role in superficial dermatophytosis, the anthropophilic fungus *Trichophyton rubrum* is not considered as a scalp pathogen.<sup>[3]</sup> The case reported here is worth noting because of its atypical clinical presentation resulting in delayed treatment. To the best of our knowledge, only few cases of *Trichophyton rubrum* induced kerion in otherwise healthy adults have been described till date.<sup>[4]</sup>

## CASE REPORT

A 70-year-old female presented with a nine-month history of multiple itchy, crusted and pustular lesions over the scalp. She had been treated with multiple antibiotics for the last two months without any improvement. The patient was not on any immunosuppressant drug and no other family member was suffering from similar disease.

The patient had no fever or other constitutional symptoms. Physical examination showed an elderly female in otherwise good general condition. The scalp showed multiple, crusted plaques involving the vertex and occipital area of scalp. The lesions were non-indurated, mildly tender and studded with numerous papules and pustules. Non-scarring alopecia was seen in and around the lesions. The hairs present were easily pluckable and matted [Figure 1]. The posterior cervical lymph nodes were enlarged and palpable. There was no evidence of fungal infection in any other part of the body. The mucous membrane and nails were normal. Values of serum blood chemistry were in the normal range. The patient's immune profile was normal. A potassium hydroxide (KOH) preparation made from the scalp scrapings and the hair showed fungal hyphae [Figure 2]. The culture on Sabouraud dextrose agar showed the growth of *Trichophyton rubrum*. Bacterial culture was sterile. A diagnosis of *Trichophyton rubrum* induced kerion was made and the patient was treated with oral itraconazole 100 mg daily for six weeks. There was complete clearance of lesions with some residual scarring alopecia [Figure 3].

## DISCUSSION

Tinea capitis is a typical childhood disease caused by dermatophytes. Invasion of the keratin of hair by dermatophytes after puberty

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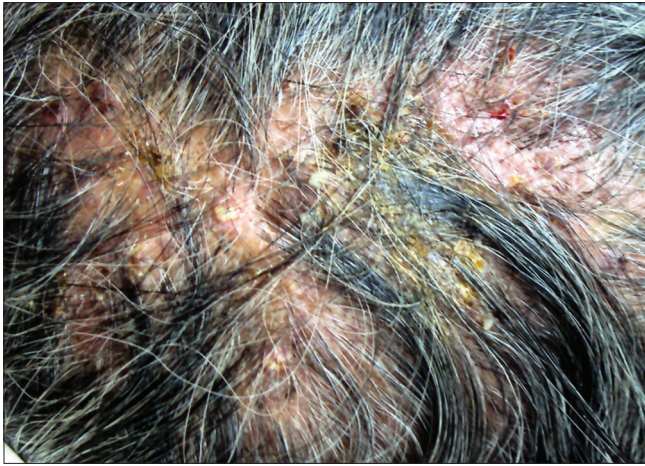
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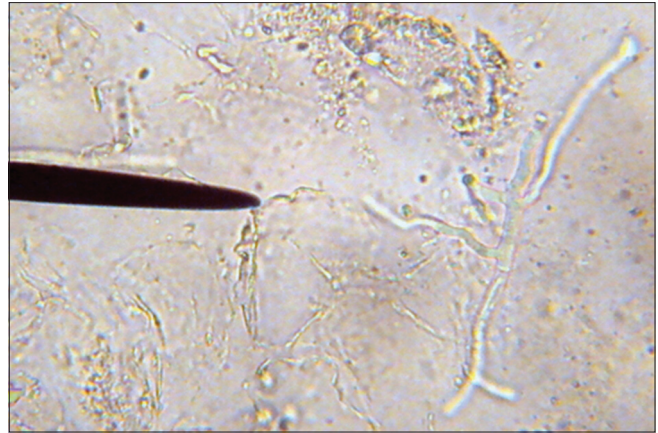


**Figure 1:** Tinea capitis in an elderly female showing crusting, pustules and matting of hair with hair loss



**Figure 3:** After six weeks of treatment, all the inflammatory lesions have cleared. Note the atrophy of skin with permanent hair loss

is a rare event in otherwise healthy subjects.<sup>[5]</sup> Only 3-5% of tinea capitis occur in adults over 20 years of age.<sup>[6]</sup> Although the disease was once thought to be rare in adulthood, a growing number of authors have reported an increase in tinea capitis among adults, particularly menopausal and elderly women.<sup>[7]</sup> Factors that may favor the development of disease at this age include hormonal changes, the use of certain hair care products and using the services of hair salons, which can be a source of infection.<sup>[8]</sup> In most of the cases that have been reported, including our own case, the diagnosis was delayed. This delay is probably due to both the rarity of this infection in adults and its atypical clinical manifestations. The disease may resemble bacterial folliculitis, folliculitis decalvans, dissecting cellulitis, or the scarring related to lupus erythematosus.<sup>[9]</sup> Recently three elderly patients were reported, who developed boggy erosions that mimicked erosive pustular dermatosis but were actually attributable to fungal infections (kerion). The intense inflammatory response apparently suppressed fungal growth, as fungi were not seen



**Figure 2:** KOH mount of scrapings showing hyphae (magnification x 40)

in initial biopsies and were not isolated from pus. The correct diagnoses ultimately were established by tissue culture.<sup>[10]</sup> In our case the presentation of pustular inflammatory lesions, crusting and associated lymphadenopathy was confused with bacterial infection; the correct diagnosis was done by KOH mount and culture. Previous studies have shown that clinical presentation of tinea capitis is not correctly indicative of the type of fungus causing the disease, as it also depends on other unknown factors.<sup>[11]</sup> In our patient with inflammatory lesions, *Trichophyton rubrum* was isolated. Although griseofulvin remains, for some authors, the treatment of choice for tinea capitis in children and adults, both terbinafine and itraconazole are considered acceptable alternatives.<sup>[7]</sup> Our patient responded nicely to itraconazole.

## CONCLUSION

The differential diagnosis of inflammatory skin condition of scalp in elderly patients should include tinea capitis. A simple KOH examination (and/or fungal culture) should be performed routinely, as inappropriate and delayed treatment can lead to complications like scarring alopecia.

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