

# Case Report

## Black dot tinea affecting the eyebrows in an adult female

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**Abstract** Tinea capitis is the invasion of the hair by dermatophytic species. It is predominantly an infection of children, although adult cases have been reported particularly with *Trichophyton tonsurans*. We report an adult female patient with black dot variety of tinea capitis involving the eyebrows along with scalp, body and nails.

**Key words**

Black dot, scalp and eye brows, adult.

### Introduction

Tinea capitis is predominantly an infection of hair shaft caused by different species of dermatophytes that vary from country to country; however, anthropophilic species predominate.<sup>1</sup> A variety of clinical presentations have been recognized including, black dot, grey patch, kerion, favus, and agminate folliculitis.<sup>1</sup> Children are affected much more frequently than adults<sup>2</sup> though the occasional cases of tinea capitis in adults must not be forgotten.<sup>3</sup> Adult cases of tinea capitis have also been reported in patients having altered immune status.<sup>4</sup> Herein, we report a case of tinea capitis and corporis with involvement of eyebrows in otherwise healthy adult female patient.

### Case report

A 20 year-old-female presented to dermatology unit, Allama Iqbal Medical College/Jinnah Hospital, Lahore, with dryness and scaling

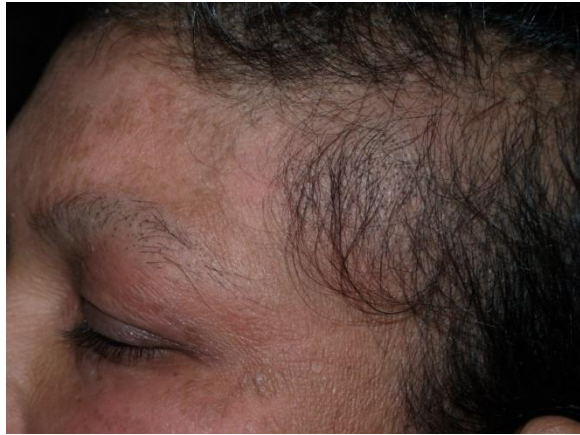
starting from the left arm and gradually progressing to involve the whole body for the last 2 years. This was accompanied with itching of moderate intensity. She noticed development of pigmentation and gradual thickening of the skin especially over the dorsa of hands and left foot during the last two years. Six months back she developed discoloration and thickening of the finger nails predominantly of the left hand and about 4 months ago she noticed roughening of the scalp hair with patchy hair loss from the scalp as well as lateral half of the eyebrows bilaterally. She had history of use of topical, oral and injectable medication from local doctors and hakeems, experiencing gradual worsening till the time of presentation. Her systemic review was unremarkable.

Dermatological examination at the time of presentation revealed generalized xerosis, with pigmentation, thickening and exaggerated skin markings over the dorsa of the hands and left foot. The scalp hair was coarse, there were few non-inflammatory, non scarring areas of patchy baldness with formation of black dots at the surface of the scalp as well as lateral half of both eyebrows (**Figure 1**). There was a solitary well-

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**Figure 1** Black dots on the scalp as well as lateral half of left eyebrow.



**Figure 2** Complete hair regrowth after single pulse.

demarcated, erythematous scaly plaque involving the left leg. Blackish discoloration, thickening and roughening of the left hand finger nails was seen. There was no mucosal involvement. Keeping the clinical suspicion of tinea capitis (black dot), tinea corporis and onychomycosis, fungal scrapings were taken from the scalp, body, and nails that turned out to be positive. Her biochemical and hematological profile was normal. Patient was started on itraconazole pulse therapy (200mg twice daily for seven days) and showed partial clearance of body lesions, regrowth of eyebrow hair and improvement in the nails with single pulse therapy (**Figure 2**). After completion of therapy with two pulses she was relieved completely of her problem.

## Discussion

Tinea capitis is predominantly a disease of preadolescent children,<sup>2</sup> adult cases being rare. The increase in fungistatic saturated fatty acids in the sebum at puberty is thought to explain the rarity of tinea capitis in adults. Secondly the thicker caliber of adult hair may protect against dermatophyte invasion, however the existence of an immune defect may facilitate the hair invasion.<sup>5</sup> Recently a significant increase in cases with adult onset tinea capitis has been observed in various cases reported in other parts of the world.<sup>3,5</sup> In adults, cases have been reported in healthy<sup>6</sup> and immunocompromised subjects<sup>3</sup> as well as postmenopausal women.<sup>7,8</sup> Our patient gave history of intake of steroids on and off from local doctors but was otherwise a healthy adult female having no systemic disorder.

Species of dermatophytes causing tinea capitis varies from region to region but main pathogens are anthropophilic organisms. A variety of clinical presentations are recognized as being either inflammatory or non-inflammatory and are usually associated with patchy alopecia. These include black dot, kerion, agminate folliculitis and favus. The endothrix type (black dot) is mostly caused by *Trichophyton tonsurans* and *T. violaceum*. It can be seen on the hair stubs and has been known to remain alive for up to two years in viable environment. Breakage of the hair at the level of skin surface causes the appearance referred to as black dot tinea capitis. Infection often begins in perifollicular stratum corneum and after a certain incubation period hyphae spread into and around hair shafts causing the hair to become brittle. Tinea mostly affects the scalp hair occasionally there is involvement of eyebrows and eyelashes.<sup>9</sup>

As a rule they become involved secondary to an infection of the scalp and glabrous skin. In our patient, it extended to involve the eyebrows but there was sparing of eyelashes. A similar case was reported earlier by Noyan *et al.*<sup>9</sup> who described tinea of the scalp and eyebrows in a diabetic female. In our setup involvement of eyebrows has been rarely reported. Hence this case is unique in its rarity.

To summarize, although tinea capitis is predominantly a disease of children but adult cases have been reported from different parts of the world. Black dot tinea of the eyebrows is rare and can be seen as part of extension of infection of the scalp and glabrous skin. In our patient involvement of the body, scalp, eyebrows and nails were all seen together.

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