

## Tinea capitis in adult Libyan female,

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### Abstract

Tinea capitis is a common dermatophyte infection that affecting mainly children but is uncommon in adults. In recent decades, the epidemiology of the disease has changed, with regard to age, incidence and the causative agents. We report a case of tinea capitis in adult woman, who presented with itchy localized patches of hair loss with scales of one-year duration. Both direct microscopy using potassium hydroxide mounting and culture showed the presence of dermatophyte fungi. Culture was positive for *Microsporum canis* and patient responded to weekly oral fluconazole. To the best of our knowledge this is the first reported case of tinea capitis in adult female in our locality.

Keywords: Tinea capitis; *Microsporum canis*; adults.

### INTRODUCTION

Tinea capitis is a common dermatophyte infection of the scalp with a wide range of clinical presentations and the main isolated dermatophytes in developing countries, are *Microsporum canis* and *Trichophyton tonsurans* [1-2].

A case of Tinea Capitis in adult caused by *Microsporum canis* is described. Tinea capitis is mainly a disease of childhood and is considered to occur rarely in adult patients, this is could be related to change in the fatty acid constituents of sebum around the time of puberty [3].

When Tinea capitis occurs in adults the clinical features may be atypical and this may delay the diagnosis. Unless the possibility of dermatophyte infection is considered, unnecessary investigations may be performed and inappropriate treatment prescribed. Tinea capitis in adults generally occurs in patients who are immunosuppressed and those infected with HIV [4]. A case of tinea capitis in adult female caused by *Microsporum canis* is described for first time in our locality.

### CASE REPORT

A twenty-three years old female came to dermatology clinic complaining of patchy localized hair loss for one-year duration and itchy scaly scalp for one month, she is married and has three children and she is nursing her 4 months old infant with breast feeding and has no house pits. One of her children is diagnosed having tinea capitis. The Patient suffered from anemia one year back, while she was pregnant, and treated with I.V ferrous. Physical examination of scalp revealed a mild erythema and patches of hair loss on vertex with brittle, broken hairs at the level of scalp and thin white scales (gray patch type). Fig. (1), and (2).



Figure (1): Patches of hair loss with broken hairs.



Figure (2): Patches of hair loss with broken hairs

The scales and hair samples were collected for direct microscopic examination using 10% potassium hydroxide mounting which revealed ectothrix spores and hyphae. Fig. (3) and (4).



Figure (3): Ectothrix spores around hair shaft



Figure (4): Fungal hyphae were seen in scaly material.

*Microsporum canis* colonies were isolated in on Sabouraud's Agar obtained from the hair fragments and scales and was characterized, macroscopically, by radiating cottony whitish colonies from anterior aspect and dark yellow colour with brownish orange centre on reverse aspect. Fig. (5) and (6). The patient was treated with fluconazole 150mg weekly and she had complete clinical and mycological clearance at six weeks.



Figure(5): Radiating cottony whitish colonies from anterior aspect

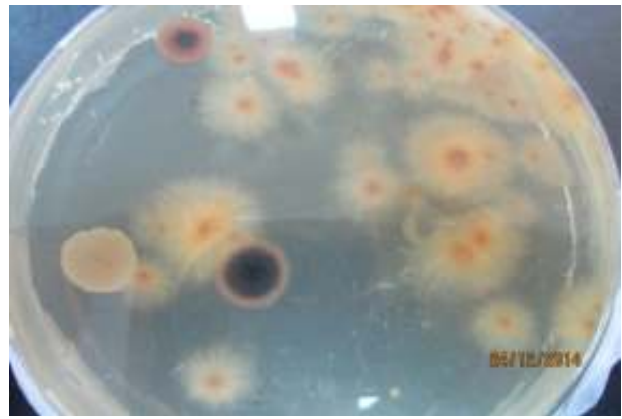


Figure (6): Dark yellow colour with brownish orange centre on reverse aspect

## DISCUSSION

Tinea capitis is common in pre-pubertal children, and it is very rare in adults [5-6]. Study of Turin University in Italy found a relative frequency of 2.6% of adults with tinea capitis among all tinea capitis patients with different age groups [7].

The relative resistance of adult's hair to colonization by dermatophytes, probably due to the fungistatic properties of the long chains fatty acids of the sebum produced after puberty and unknown immunological factors, could explain the rareness of cases in the elderly [8-9]. While literature says that tinea capitis is more common in little boys [9]. In Turin university study reveals a female prevalence of the disease in adults, in particular in post-menopausal women, this is thought to be related to increased involution of sebaceous glands following decreased blood estrogen level [7]. Another important factor predisposing to tinea capitis is impairment of health or immunity, including conditions such as diabetes, anemia, immunosuppression and increasing exposure to the pathogens (e.g. tinea located elsewhere on the body, contact from infected children or fomites [8-11])

In our case there is history of anemia before one year while our patient was pregnant, which was treated with intravenous ferrous. According to Turin university study, *M. canis* was found to be the most frequent aetiological agent in their report [5-6]. Tinea capitis caused by infection of *T. rubrum* is described to be extremely rare [10-12]; With examination, of hair and scalp scraping, under Microscope and use of KOH 10%, *Microsporum* spp. always produce ectothrix infections, while *Trichophyton* spp. Can cause both ecto- and endothrix [13]. Scraping of hair and scalp scales with use of KOH 10% were examined under light microscope and revealed Hyphae and ectothrix spores.

Our patient has child 4 months old on breast feeding, therefore was treated with fluconazole capsules 150mg once per week for 6 weeks, which thought by us to be less toxic compared to other systemic antifungals, and topically treated with Ketoconazole cream once daily on

her scalp and Ketoconazole Shampoo twice per week over 6 weeks, the patient was seen 2 months later upon her follow up, with completely resolved complaints with disappearance of signs of tinea capitis and returning of scalp and hair to normal. Furthermore, Microscopic examination with use of KOH and culture of skin scrapings from scalp and hair were negative for fungi.

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