Iranian J.Publ. Health
1986, Vol.15, No 1-4

MYCOTIC INFECTION OF TINEA CAPITIS IN TEHRAN

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Key Words: **Thinea Capitis, Microsporum** Canis
Trichophyton Violaceum,

ABSTRACT

From 687 patients referred to the Medical Mycology Department of the school of public Health, 184 cases showed Tinea capitis infection, Direct microscopy and culture was positive in 86.2% and 75.29% of the cases respectively. From the positive cultures 5 different dermatophytes were identified as: Microsporum canis, Trichophyton violaceum,Trichophyton verrucosum, Trichophyton schoenleinii, Trichophyton mentagrophytes. M. canis was found to be the commonest causative organism of Tinea capitis in Tehran (53,84%) followed by T.violaceum(22.37%),T.verrucosum(13.98%),T.shoenleinii (11.18%)

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and T.mentagrophytes(6.69%).
Candida albicans and other candida species were also isolated from two patients.

INTRODUCTION

Mycotic infection of the scalp caused by various species of dermatophytes (Trichophyton and Microsporum) is the predominant organism, and varies with time and in some areas produces great public health problems. Tinea capitis, Primarily a disease of childhood,has also been observed to a much lower degree in adults[9].For centuries, ringworm of the scalp and the body had a prevalence closely corelated with the socio-economic and hygienic conditions typical for the lower strata of urban populations.[4]

Tinea capitis has been recognized for many years as an endemic disease in certain rural areas of Iran. Due to the effects of the natural situation and public health conditions, the incidence and prevalence of the disease has not always been uniform in rural areas of Iran[10].

There have been several reports of Tinea capitis from different areas (such as Kazerun, Borazjan,Boosher, Gonabad, Dezful, Kermanshah, Chabahar)of Iran.[1,6,10,12,15]

The aim of this study was to demonstrate the etiologic agents of the disease in Tehran area.

MATERIALS AND METHODS

687 patients with clinically suspected Tinea vapitis

were admitted to the Medical Mycology Laboratory of the School of Public Health and Institute of Public Health Research, within eight months, from January to September 1986.

After cleaning the lesions with 70% alcohol, samples of scales and hair were taken for mycological investigation. Half of the Specimens were examined microscopically with lactophenol and the rest were cultured in sabouraud's dextrose agar medium containing chloramphenicol with cycloheximide. The cultures were incubated for 4 weeks at 28^{oC} before being discarded as negative. Slide cultures were also performed in all positive culture, and fungi were identified.

RESULTS

Of the 184 patients with Tinea capitis, 102 (55.43%) were males and 82(44.57%) were Females. The youngest patient was 9 months old (Table 1).

In 107 patients direct examination and culture were positive, while in 43 patients direct examination was positive but culture was negative.

In 24 cases the culture alone was positive(Table 2). Eighty-Two (54.66%) Tinea capitis patients had ectothrix and 46 (30.66%) Endothrix spores, while only 22(14.66%) had Favus. M.canis were identified in 77 subjects, T. violaceum in 32, T. verrucosum in 17, T. schoenleinii in 14, T. mentagrophytes in 1, candida albicans in 1 and candida species in 1 case. (Table 3).

Among 148 infected cases M.canis was the commonest fungi infection (53.84%).

DISCUSSION

Tinea capitis has been found to be an endemic disease in certain rural parts of Iran[10]. Ansari and Fahieh[2] were the first to study the agents of scalp ringworm in Tehran. They found out that Trichophyton schoenleinii and Trichophyton violaceum were much more prevalent in the patients than Trichophyton mentagrophytes and Microsporum audouinii.

In another study, the agents of Tinea capitis in Iran by Asgari et al in 1971 showed that the predominant dermatophytes were Trichophyton schoenleinii and T.violaceum, but T. tonserance, T.mentagrophytes and Microsporum gypseum were also found. In the present study the predominant agent of Tinea capitis was M. canis which was in contrast of Ansari and Faghih to the. Emami and Moghadami (1982) reported an epidemic of M.canis in Tehran M.canis usually caused limited epidemics, and were often restricted to members of a family[4]. Our study showed that the more frequent occurrence of Tinea capitis observed among male patients was presumably due to easy implantation of spores in male short hair condition. Raubit-schek[13] suggests that boys are generally more susceptible to Tinea capitis infections than girls because they habitually share their caps and hair brushes. Other investigators have also reported a higher incidence of Tinea capitis

Table 1. Age and Sex Distribution of cases

Age (Years)	male	Female	Total	Percentage
0-5	37	47	84	45.65
6-10	47	20	67	36.41
11-15	17	11	28	15.22
16 >	1	4	5	2.72
Total	102	82	184	100

Table 2- Comparision of the direct lactophenol and culture examination of the cases.

Lactophenol	Culture	No of cases	%
+	+	107	61.49
+	-	43	24.71
-	+	24	13.8

Table 3- Percent of different dermatophytes isolated from scalp of infected cases.

Species	No.of.Isolates	Percentage
M.canis	77	53.84
T.violaceum	32	22.37
T.verrucosum	20	13.98
T.schoenleinii	16	11.18
T.mentagrophytes	1	0.59
C.albicans	1	0.59
C.species	1	0.59

in males.

The highest number of Tinea capitis observed were in the under 5 years old age group which is in contrast to previous reports from Iran. Candida species isolated from two patients, (2 and 3 years old) requires further investigations.

ACKNOWLEDGEMENT

We are indebeted to Dr J. Massoud, Professor of School of Public Halth, University of Tehran, for his criticisms.

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