Original Research Article

A Clinical And Mycological Study Of Dermatophytosis In Shadan Institute Of Medical Science Teaching Hospital And Research Centre, Himayath Sagar Road Hyderabad.(Telangana State).

Dr Syed Yousuf Ali ¹, Dr. Sukumar Gajjala², Dr Azheel Khalidi³, Dr Suma Nalamada⁴, Dr Humera Qudsia Fatima Ansari⁵

¹ Associate professor, Department of Dermatology, Shadan institute of medical science teaching hospital and research centre, Himayathsagar road Hyderabad. (Telangana state).
² Associate professor ,Department of Dermatology, Shadan institute of medical science teaching hospital and research centre, Himayath sagar road Hyderabad.(Telangana state).
³ Post graduate student, Department of Dermatology, Shadan institute of medical science teaching hospital and research centre, Himayathsagar road Hyderabad.(Telangana state).
⁴ Assistant professor ,Department of Microbiology, Shadan institute of medical science teaching hospital and research centre, Himayath sagar road Hyderabad.(Telangana state).
⁵ Professor, Department of Microbiology, Shadan institute of medical science teaching hospital and research centre, Himayathsagar road Hyderabad.(Telangana state).

*Corresponding author
Dr. Syed Yousuf Ali
Email: syedbidar@gmail.com

Abstract: In this Clinico-mycological study of 200 randomly selected cases of dermatophytoses was undertaken in Shadan institute of medical science teaching hospital and research centre, Himayath sagar road Hyderabad (Telangana state). Among the Dermatophytosis tinea cruris (35%) was the major clinical type followed by tinea cruris with tinea corporis (19%) and tinea corporis alone (19%). Incidence of tinea capitis was 4.5% and all of those affected were in the age group of 0-10 years. Male preponderance was observed (M: F=2.03:1). Trichophyton rubrum was the predominant isolate in the present study isolated in majority (59.16%) from all clinical types followed by Trichophyton mentagrophytes (27.5%).

Keywords: dermatophytoses, sestinea cruris, tinea cruris.

INTRODUCTION
Cutaneous fungal infections have been reported worldwide as being one of the most common human infectious diseases in clinical practice. In spite of therapeutic advances in the last decades, the prevalence of cutaneous mycoses is still increasing [1].

MATERIALS AND METHODS
The study was conducted on 200 clinically diagnosed cases of dermatophytoses attending Skin, STD and Leprosy OPD of Shadan institute of medical science teaching hospital and research centre, Himayath sagar road, Hyderabad (Telangana state) during the period of July 2015 to December 2015. Mycological study conducted on each case included:

1. Direct KOH preparation of specimen obtained by scraping, epilated hair and nail clippings where needed, for demonstration of fungal elements.

2. Culture of specimen on Sabouraud's agar with chloramphenicol and actidione. The isolated fungi were identified by their Colony characters and microscopic morphology of elements in the lesion macroconidia, microconidia and hyphae.

RESULTS
Patients were divided into six age groups; <10, 11-20, 21-30, 31-40, 41-50 and >50 year of age. The largest number of patients in our study, 119 (59.5%), were in the 21-30 year age group followed by 30-40 year age group (15%),30-40 year age group (15%), 40-50 year age group (11%), >50 year age group 12(6%),< 10 year age group (5%).(Table 1).

The ratio of male cases to female cases was 2.03:1. (Figure 1)
The distribution of cases according to site of lesion i.e., according to clinical types is Tineacrurisin majority i.e., 70 (35%) patients; followed by tinea cruris with corporis 38 (19.0%); Tinea corporis 38 (19.0%); tinea mannum 21 (10.5%); tinea pedis 12 (6.0%); tineacapitis 9 (4.5%); tinea unguium 8 (4%); tinea faciei 4 (2.0%). (Table 2)

Fungal elements (hyphae and/or arthrospores) could be demonstrated in scrapings from 128 out of 200 cases (64%). Culture positivity was seen in 120 out of 200 cases (60%) (Table 3). Among the KOH positive cases culture positivity was seen in 109 cases (85.15%) and 19 cases were culture negative (14.85%). This was a significant association (p<0.001).

**TABLE 1: Age-wise distribution of cases**

<table>
<thead>
<tr>
<th>Age group</th>
<th>&lt;10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
<th>40-50</th>
<th>&gt;50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients with percentages</td>
<td>10 (5%)</td>
<td>7 (3.5%)</td>
<td>119 (59.5%)</td>
<td>30 (15%)</td>
<td>22 (11%)</td>
<td>12 (6%)</td>
</tr>
</tbody>
</table>

**TABLE 2: Distribution of cases according to site of involvement**

<table>
<thead>
<tr>
<th>Clinical variants</th>
<th>Tinea capitis</th>
<th>Tinea faciei</th>
<th>Tinea corporis</th>
<th>Tinea mannum</th>
<th>Tinea cruris</th>
<th>Tinea pedis</th>
<th>Tinea unguium</th>
<th>Tinea cruris with corporis</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentage</td>
<td>9 (4.5%)</td>
<td>4 (2.0%)</td>
<td>38 (19%)</td>
<td>21 (10.5%)</td>
<td>70 (35%)</td>
<td>12 (6.0%)</td>
<td>8 (4%)</td>
<td>38 (19%)</td>
</tr>
</tbody>
</table>

**TABLE 3: The species of dermatophytes isolated from various clinical sites**

<table>
<thead>
<tr>
<th>Culture organism</th>
<th>T. rubrum</th>
<th>T. mentagrophyte</th>
<th>T. violaceum</th>
<th>M. audouini</th>
<th>M. canis</th>
<th>T. tonsurans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>71 (59.16%)</td>
<td>33 (27.5%)</td>
<td>9 (7.5%)</td>
<td>4 (3.33%)</td>
<td>2 (1.66%)</td>
<td>1 (0.83%)</td>
</tr>
</tbody>
</table>

Fig-1: Gender-wise distribution of the patients
Fig-2: *Tinea cruris* in a 30 year old male patient

Fig-3: *Tinea capitis* in a 7 year old child
DISCUSSION

In the present study most of the dermatophyte infections (59.5%) were found in the adult age group of 21-30 years. Other studies have also found 21-30 years age group as the commonest group affected [2, 3, 4]. Male preponderance (2.03:1) was observed in our study like others [3, 5]. Patients were divided into six age groups; <10, 11-20, 21-30, 31-40, 41-50 and >50 year of age. The largest number of patients in our study, 119 (59.5%), were in the 21-30 year age group. Similar results were seen by other authors [6, 7]. Males 134 (67%) outnumbered females 66 (33%) which is similar to other studies [8,9]. Tinea cruris as the main clinical variety in our study is in agreement with several other Indian studies [3,10,11]. However, many other Indian studies have reported tinea corporis as the commonest clinical variety [12, 13, 14]. In the present study we also found all the patients affected with tinea capitis were children of 0-10 years age group with males more commonly affected. The high frequency in males could
be due to the custom of regular application of vegetable oils over the scalp of female which has fungi static properties [15]. Out of 4 cases (2%) of tinea faciei reported in this study, 2 cases with tinea faciei had tinea capitis also. Fungus identification by KOH Mount was positive in 64% cases; however culture positivity was observed only in 60%. *Trichophyton rubrum* was the prime isolate in present study which is in agreement with other studies from India [16, 17], however Trichophyton violaceum was the major isolate in study done by Karmakar [18]. An interesting feature of this study was that Trico Phyto nivialose was isolated from all the cases of tinea capitis, this is in agreement with other Indian studies, who have either found 100% isolation [19, 20] of Trichophyton violaceum or it as predominant isolate [21, 22]. Sharma et al.; [14] from Jaipur found Microsporum gypseum; Dalai *et al.;* [13] from Udaipur found Trichophyton mentagrophyte and Murdia [23], from Udaipur found *Trichophyton rubrum* as the main causative fungus of tinea capitis.

**CONCLUSION:**

To conclude, the present study shows that tinea crus is the most common clinical type of dermatophytosis and *Trichophyton rubrum* is the most common isolate in this part of Telangana state.

**REFERENCES:**

3. Singh R, Kumari, Jerath VP; Mycology of tineacorposis and tineacrusis in Delhi, Ind J Dermatol Venereol Leprol 1980;46:218-20
9. Saha S, Mishra D; Change in spectrum of dermatophytes isolated from superficial mycoses cases: First report from Central India. Indian J Dermatol Venereol Leprol 2011; 77:335-6.