

Clinical and mycological profile of dermatophytosis



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A CLINICAL AND MYCOLOGICAL PROFILE OF DERMATOPHYTOSIS IN KLES DR PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE, BELGAUM"

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ABSTRACT

Aim: To study the clinical and mycological profile of dermatophytosis in tertiary care hospital.

Backgroundand objectives: Dermatophytosis, a group of taxonomically closely related keratinophilic fungi called dermatophytes varies with geographical area as well as climatic conditions and there is wide variation in the spectrum of dermatophytic isolates. This study was aimed to understand the clinical and mycological profile of dermatophytosis.

Methodology: The present one year cross sectional study from January 2013 to December 2013 was done in the Department of Dermatology, Venereology and Leprosy, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum A total of 125 patients presenting with dermatophyte skin infection were subjected to clinical examination and KOH examination for fungi and culture.

Results: The commonest clinical forms noted were Tinea corporis (52%) and Tinea cruris (43. 2%). Most of the patients were males (67. 2%) (male to female ratio 2: 1) and Tinea corporis was the commonest clinical diagnosis (48. 81%). The commonest age group was 21 to 30 years (36%) and had Tinea corporis (56%) commonly. 36. 8% of the patients had duration of > 35 weeks. The commonest morphological variant was noted as annular (37. 6%). The KOH examination was positive in 78. 4% cases and culture was positive for fungus in 64. 8% of the cases. In patients with positive culture, *T. mentagrophyte* was the commonest isolate (48. 15%). The commonest dermatophyte isolated was *Trichophyton* (88. 64%).

Conclusion: There is wide variation in the clinical and mycological profile of dermatophytosis. The detection of emerging organisms may be help in the treatment and adequacy of current pharmacologic regimens.

Key words:

Dermatophytosis; Mycological profile; Skin infection; Tinea corporis; Tinea cruris;

Introduction

Dermatophytosis is characterized by the infection of keratinized tissues such as the epidermis, hair and nails. Distribution of dermatophytes varies with geographical area. Further, there is wide variation in the spectrum of dermatophytic isolates. To understand the burden and trend of dermatophytosis, surveillance of the disease plays an important role.

Considering the above facts the present study was designed to know the

clinical and mycological profile of dermatophytosis so as to elaborate the epidemiological data in the region which will help in understanding the disease pattern and burden which may not only aid in taking adequate measures to prevent the transmission but also help in preventing spread of infection thereby reducing the disease burden.

Materials and method

This one year cross sectional study of 125 patients presenting with dermatophytes skin infection was conducted in the Department of Dermatology, Venereology and Leprosy, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum from January 2013 to December 2013. Patient who are on antifungal treatment and cases who did not provide informed consent were excluded from the study. A detailed history was taken regarding duration and progress of lesion in past age, sex, and occupation. A complete dermatological examination for type of the lesion, morphology and distribution was done along with general physical examination. Clinical material was collected for KOH examination and culture using standard mycological techniques. SDA (Sabourauds Dextrose Agar) with cycloheximide and chloramphenicol were used for culture. The media were incubated at 25 °C and 37 °C for a minimum period of three weeks. Positive cultures were examined both macroscopically and microscopically for species identification.

Results:

Based on the clinical examination findings the commonest clinical forms noted were Tinea corporis, Tinea cruris, Tinea pedis, Tinea unguis, Tinea

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capitis, Tinea faciei, Tinea mannum and Tinea barbae. Multiple clinical forms were present in almost one fifth of the study population and the commonest clinical form was noted as Tinea cruris with Tinea corporis. Most of the patients were males (67. 2%) with male to female ratio of 2: 1 and 48. 81% of the males had clinical type of Tinea corporis. The commonest age group was 21 to 30 years (36%) and had Tinea corporis (56%) commonly. Most of the patients (36. 8%) reported duration of > 35 weeks. Maximum cases were noted in the month of August (16%). The commonest morphological variant was noted as annular (37. 6%). The KOH examination for fungus was positive in 78. 4% of the cases and culture was positive for fungus in 64. 8% of the cases. Among the patients with positive culture, *T. mentagrophyte* was the commonest isolate noted in 48. 15% of the patients. The commonest dermatophyte isolated was noted as *Trichophyton* (88. 64%).

Discussion:

In our study various clinical forms dermatophytic infections were noted. The commonest clinical form was Tinea corporis (52%) followed by Tinea cruris (43. 2%), Tinea pedis (9. 60%), Tinea unguim (7. 2%), Tinea capitis (2. 40%), Tinea faciei and Tinea mannum (1. 60% each), and Tinea barbae (0. 8%). A recent study from Mysore Karnataka by Surendran KAK et al ¹ also observed Tinea corporis (44. 3%) as the most common clinical pattern.

In our study multiple sites were involved among 23 cases. Of these, Tinea cruris and Tinea corporis were present in 17 (73. 91%) and Tinea corporis and Tinea pedis in three (13. 04%) cases. In the present study males were commonly affected that is, almost two third of the patients (67. 2%) were

males with male to female ratio of 2: 1. Tinea corporis was the commonest clinical type of dermatophytosis among males (48. 81%) while in females it accounted among 58. 54% of the patients. Sen SS et al ² and Jain N et al ³ reported 48% and 37% of the male with Tinea corporis while Bindu V et al ⁴ reported 54. 6% of males.

In this study, maximum patients belonged to age between 21 to 30 years (36%) and the next common age group was 31 to 40 year (19. 2%). This was in accordance with a recent study from Mysore by Surendran KAK et al, ¹ Karnataka where maximum number of cases encountered in the age group of 16-30 years (44%) followed by the age group of 31-45 years (26%). Other studies by Sen SS et al ² from Guwahati in 2006 and Sahai S et al ⁵ from Lucknow in 2011 also reported commonest age group as 21 to 30 years (44% and 32. 4% respectively). Among them 45 patients with age between 21 to 30 years, 25 (56%) had Tinea corporis and 8 (18%) had Tinea cruris. Similar findings were noted by Bindu V et al, ⁴ Singh S et al, ² Sen SS et al ² and Jain N et al. ³ In this study maximum cases were noted between June to September (37. 6%) with peak in the month of August (16%) which is similar to the findings of Kalla G et al ⁵⁷ and Sumana V et al. ⁶

In this study the commonest morphological variant was noted as Annular (37. 6%). The present study KOH examination for fungus and culture was positive in 78. 4% and 64. 8% of the cases respectively. Of the 98 cases with positive KOH examination for fungus, 81 (82. 65%) cases had positive culture. A study by Belukar et al . ⁷ showed culture positivity of 71%, which was much higher and close to the present study. In this study, T.

mentagrophyte was the commonest isolate noted in 48. 15% of the patients followed by *T. Rubrum* (43. 21%). In a study recent study from Mysore by Surendran KAK et al, ¹ *T. rubrum* was the chief organism isolated with a percentage of 67. 5% while *T. mentagrophytes* (20%) isolates were found second in frequency. *T. mentagrophytes* are relatively more prevalent in south India. ¹

Conclusion:

The KOH examination for fungus was positive in 78. 4% of the cases and culture was positive for fungus in 64. 8% and in patients with positive culture, *T. mentagrophyte* was the commonest isolate followed by *T. rubrum* (43. 21%). Overall there is wide variation in the clinical and mycological profile of dermatophytosis. Further KOH examination for fungus and culture play an important role in the diagnosis of dermatophytosis.

References

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