



A Study Of Clinical And Epidemiological Profile Of Dermatophyte Infections

Dr. Rayavarapu Rama

MD Dermatology, Associate Professor DVL RIMS Ongole

ABSTRACT

BACKGROUND: Dermatophytosis is a superficial fungal infection of keratinized tissues of skin caused by Dermatophytes. Mode of spread is by direct contact from infected human beings (Anthropophilic), animals (Zoophilic) and soil (Geophilic) and indirectly from fomites. It causes a major public health problem in hot and humid regions.

AIM: To study the clinical and epidemiological profile of Dermatophytoses.

METHODS AND MATERIALS: 100 patients presented with clinical diagnosis of dermatophytoses were included in the study. Complete clinical and mycological examination were done in each case.

RESULTS: Commonest age group affected was 20 – 29 and 30 - 39 years. Males outnumbered females. Commonest clinical type seen was tinea corporis (40%) followed by tinea cruris (30%). Commonest species was Trichophyton rubrum.

KEYWORDS : DERMATOPHYTOSES, TINEA CORPORIS, TRICHOPHYTON RUBRUM.

INTRODUCTION:

Dermatophytoses is a superficial fungal infection of keratinized tissues of skin, nail and hair caused by keratinophilic dermatophytes. Depending on the habitat dermatophytes may be Geophilic (soil), Zoophilic (animals) or Anthropophilic (Human). Anthropophilic infections are often epidemic in nature, transmission of infection is from humans either by direct contact or by fomites and produce a relatively noninflammatory infection. Trauma, maceration, increased hydration of the skin increase the risk of infection. Other predisposing factors are Diabetes Mellitus, Lymphomas¹, immunocompromised status², Cushing³ syndrome³ which could produce severe, widespread or recalcitrant dermatophytoses. The infection usually more common along the waistline of Indian women wearing sarees. The humeral immune system has a minor role in the development of acquired resistance to dermatophytic infections^{4,5}. The chief immunologic defense is the type IV delayed hypersensitivity response. Zoophilic infections trigger severe inflammatory response in humans⁵. Anthropophilic infections trigger minimal ones. The clinical presentation of dermatophytosis depends largely on the species and the strain of the fungus, the size of the inoculum, the site of infection and the immune status of the host. Climatic conditions, customs, socio-economic and hygienic status of the individual influence the incidence. Incidence of tinea corporis increases in hot and humid climates, and causes a major health problem in tropical and sub tropical regions. Dermatophytes are classified into three species namely Trychophyton, Epidermophyton and Microsporum. Depending on the site of infection dermatophytosis is classified as follows,

- Tinea capitis scalp hair
- Tinea barbae beard hair
- Tinea faciei face
- Tinea corporis glabrous skin of the body
- Tinea cruris groins
- Tinea mannum palmar skin
- Tinea pedis plantar skin
- Tinea unguium nail

Usually the clinical picture, KOH examination and culture establish the diagnosis. Topical and oral antifungals and correction of predisposing factors are the mainstay of the treatment.

MATERIALS AND METHODS:

In the present study 100 patients with clinical diagnosis of dermatophytosis were included. Patients using systemic or topical antifungals were excluded from the study. A detailed history including age, sex, socio economic status, occupation, duration of disease, type of lesion, contact with animals and soil, similar

complaints in the family, history of recurrence were elicited and recorded in all cases. Type of lesion, site of lesion and number of lesions were recorded. General physical and systemic examination were carried out. Routine investigations like complete blood count, blood sugar were done wherever necessary. Scrappings were taken from the active border of the lesion. Fungal examination by direct microscopy using 10% KOH and fungal culture for species identification using Sabouraud's dextrose agar slopes and Dermatophyte test medium were carried out in all cases and results were recorded.

RESULTS:

In the present study, maximum number of patients were in the age group 20 – 29 years (41%) and 30 -39 years (29%). Out of 100 patients 65 were males and 35 were females. 60% affected were from middle socio-economic group, 30% were from lower socio-economic group and 10% were from upper socio-economic group. Tinea corporis was the most common type reported in 40 cases (40%) followed by tinea cruris in 30 cases (30%), onychomycosis in 10 (10%), tinea mannum in 3 (3%), tinea pedis in 3 (3%) cases and tinea faciei in 2 (2%) cases. More than one type of lesions were observed in 15% of cases. Tinea capitis was not reported in our study. Most common clinical type observed in females was tinea corporis (71.42%), and in tinea cruris more commonly seen in males than in females. (83.33%). Most common species isolated in this study was Trichophyton rubrum (80%).

Clinical types	Number of cases	percentage
Tinea corporis	40	40%
Tinea cruris	30	30%
Tinea corporis + Tinea cruris	15	15%
Onychomycosis	10	10%
Tinea Mannum	3	3%
Tinea Pedis	3	3%
Tinea Faciei	2	2%



DISCUSSION:

The present study deals with clinical and epidemiological profile of dermatophyte infections. 100 patients presenting with dermatophyte infection were included in the study.

In the present study commonest age group affected was second and third decade of life. This is in agreement with the findings of previous studies^{6,7,8}. Males outnumbered females in the present study. Higher incidence in males could be due to greater outdoor physical activity and increased sweating. Majority of patients were from middle and lower socio-economic group and may be due to poor living conditions and poor personal hygiene. Among the clinical types commonest type observed was tinea corporis in females and tinea cruris in males. Similar findings were also observed by Bindu et al and others^{8,9,10}. 15% of cases in the study were presented with both tinea corporis and cruris. Similar findings were also reported by Peerapur et al. Tinea capitis was not reported in this study which is in accordance with the findings reported by Meheta et al¹² Direct microscopy with 10% KOH positive in 70% and culture positive in 40% of cases as reported by Bindu et al and Patwardhan et al^{6,13} Trichophyton rubrum was the commonest organism isolated in this study (80%). This is in agreement with other studies by Kanwar et al, Bindu et al, Singh ET AL, Grover S et al^{6,8,11,14}.

CONCLUSION:

Dermatophytosis is most common superficial fungal infection in the second and third decade of life. Majority of cases found in middle and lower socio-economic group. Males more commonly affected than females. Tinea corporis was the most common type followed by tinea cruris. Trichophyton rubrum was the commonest causative organism.

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