Date:25/10/2023

STUDY OF DERMATOPHYTIC INFECTIONS BY MEDICAL STUDENTS OF OSH STATE UNIVERSITY.

By : Abdulkasymova Dinara Abdulazizovna

Swathi, Akanksha ,Mansi, Anusha, Shagun, Hema, janhavi

3rd year Student, International Medical Faculty, Osh State University, Osh, Kyrgyzstan.

Lecturer, Department of Dermatovenereology,International Medical Faculty, Osh State University Kyrgyzstan.

Osh State University, Osh, Kyrgyzstan.

3rdYear Student Of Osh State University, International Medical Faculty, Osh, Kyrgyzstan.

https://ijdmsrjournal.com/?gclid=CjwKCAjwp8OpBhAFEiwAG7NaErufyU-Egqr-vbjZJYpBlawdHC5E1OLMb5rz37Gn5iLm0jqIaVSdKBoCC9AQAvD_BwE

ABSTRACT

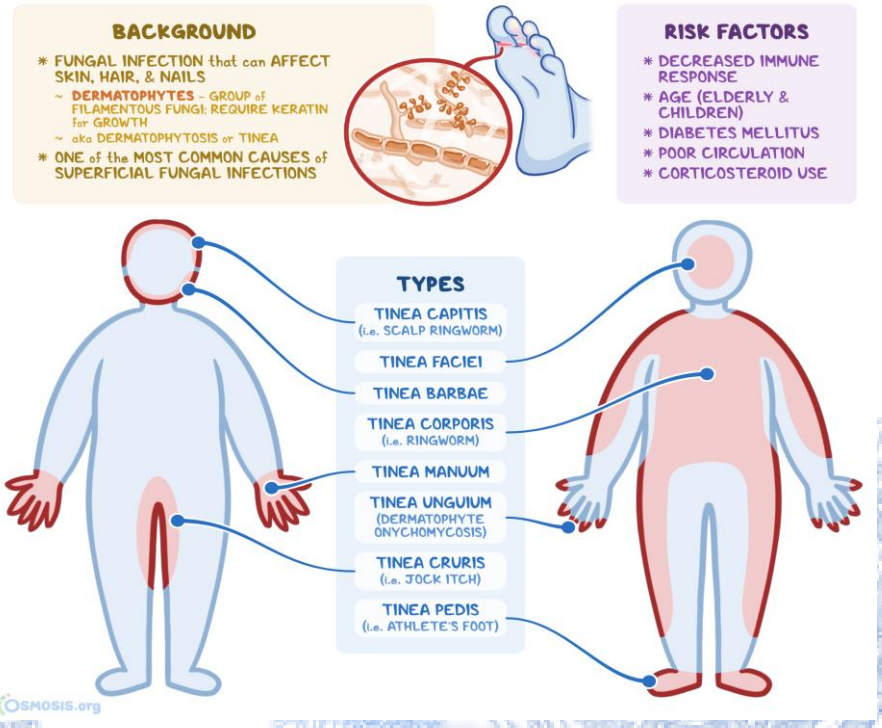
Dermatophytes are the most common agents of superficial fungal infections in humans and animals, but they also cause serious infections in patients with solid organ transplant or congenital immune disorders. The reduced size of their genome with the expansion of particular gene families indicate that these fungi are highly specialized and have the ability to degrade hard keratin and escape the immune system during

infection. The ability of dermatophyte to switch from a saprophytic to a parasitic lifestyle is achieved through significant reprogramming of gene expression. Research on dermatophytes has generated renewed interest with the emergence of cases of dermatophytosis resistant to standard treatments.

INTRODUCTION

A dermatophyte infection, also known as dermatophytosis or tinea, refers to a group of fungal infections that can affect the skin, hair, and nails.

Tinea infections are one of the most common causes of superficial fungal infections around the world, and are distinguished by the area of the body affected. For instance, tinea corporis (i.e. ringworm) affects the arms, trunk, and legs; tinea capitis (i.e. scalp ringworm) affects the scalp and hair shafts; tinea faciei affects facial skin; tinea cruris (i.e. jock itch) affects the groin and inner thighs; tinea pedis (i.e. athlete's foot) and tinea manuum affect the feet and hands, respectively; and tinea barbae affects facial hair follicles of bearded individuals. Dermatophyte nail infections are commonly known as dermatophyte onychomycosis or tinea unguium.



CAUSES

Dermatophyte infections are caused by dermatophytes; a group of filamentous fungi that require keratin for growth. Keratin is a family of structural proteins that are found in the hair, nails, and outermost layers of the skin. There are over 20 species of dermatophytes which are classified into three genera: Trichophyton, Microsporum, and Epidermophyton.

osmosis Dermatophytes can be further classified into different subtypes—anthropophilic, zoophilic, and geophilic— according to their natural habitat. Anthropophilic dermatophytes, such as Trichophyton rubrum and Trichophyton tonsurans, are the main cause of human dermatophytosis. They are often transmitted from one person to another or by contaminated objects (e.g. clothes, hats, hairbrushes), and generally cause long-lasting infection with mild inflammation. Zoophilic dermatophytes primarily infect animals, although they can occasionally spread to humans by direct contact. Finally, geophilic dermatophytes grow in keratin-rich soil containing decaying feathers, horns, and hairs. Human infection by zoophilic and geophilic dermatophytes is less common and causes more severe, inflammatory tineas.

SIGNS AND SYMPTOMS

Depending on the infectious microorganism, affected area, and the severity of the infection. Most infections tend to be superficial and localized to a specific part of the body, such as the feet, scalp, or nails.

OUTCOMES

Dermatophyte infections are common superficial fungal infections caused by dermatophytes; a group of fungi that infect keratinized tissues, such as the skin, hair, and nails. Dermatophyte infections are classified according to the site of infection, and include tinea corporis (ringworm), tinea capitis (scalp ringworm), tinea unguium (nail infection), and tinea pedis (athlete's foot), among others. A characteristic feature of dermatophyte infections is a round, itchy rash with inflamed borders and a central clearing, commonly known as ringworm. Dermatophyte infections can be suspected with clinical presentation of

the characteristic lesions, although diagnosis is typically confirmed by additional diagnostic tests, including direct examination under a microscope, Wood's light examination, or fungal cultures.

RESEARCH

Tinea infection	Body parts infected
Tinea facie.	Face
Tinea manuum	Hands (palms and flexoral parts of fingers)
Tinea corporis.	Trunk and extremities
Tinea inguinalis.	Inguinal fold or groin (genitals)
Tinea pedis.	Soles
Tinea capitis	Scalp
Tinea colli	Neck
Tinea unguium	Nails

dermatophytosis manifests as a contagious pruritic dermatologic disease resulting in round focal areas of alopecia, 'ringworm.' In humans, dermatophytosis is referred to as tinea and can result in several clinical syndromes such as tinea pedis ('athlete's foot'), tinea capitis (ringworm of the scalp), tinea corporis (ringworm of the body), or onychomycosis (nail-associated disease). A thorough description of variation in clinical presentation has been reviewed elsewhere. The infective stage of dermatophytosis is an arthrospore formed by segmentation of fungal hyphae.

CONCLUSION

The present study gives an insight about the prevalence and distribution pattern of dermatophytoses in Jodhpur, India. Tinea corporis was the most commonly diagnosed clinical condition followed by Tinea

cruris. T. mentagrophytes was implicated as the predominating species followed by T. tonsurans and T. rubrum. This data could help in the diagnosis of the disease and thus the spread of the disease can be controlled with specific control measures.

ACKNOWLEDGEMENT

We thank department of Dermatovenereology osh international medical hospital, osh , Kyrgyzstan for providing clinical samples for this study.

REFERENCE

references are in PubMed. This may not be the complete list of references from this article.

Ajello L. A taxonomic review of the dermatophytes and related species. Sabouraudia. 1968 Feb;6(2):147–159. [PubMed] [Google Scholar]

Ajello L. Natural history of the dermatophytes and related fungi. Mycopathol Mycol Appl. 1974 Aug 30;53(1):93–110. [PubMed] [Google Scholar]

Ajello L, Bostick L, Cheng SL. The relationship of Trichophyton quinckeanum to Trichophyton mentagrophytes. Mycologia. 1968 Nov-Dec;60(6):1185–1189. [PubMed] [Google Scholar]

Ajello L, Cheng SL. The perfect state of Trichophyton mentagrophytes. Sabouraudia. 1967 Feb;5(3):230–234. [PubMed] [Google Scholar]

AJELLO L, GEORG LK. In vitro hair cultures for differentiating between

atypical isolates of Trichophyton mentagrophytes and Trichophyton rubrum. Mycopathol Mycol Appl. 1957 Mar 25;8(1):3–17. [PubMed] [Google Scholar]
Aljabre SH, Richardson MD, Scott EM, Rashid A, Shankland GS. Adherence of arthroconidia and germlings of anthropophilic and zoophilic varieties of Trichophyton mentagrophytes to human corneocytes as an early event in the pathogenesis of dermatophytosis. Clin Exp Dermatol. 1993 May;18(3):231–235. [PubMed] [Google Scholar].