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DIAGNOSIS AND IDENTIFICATION OF DERMATOPHYTES TINEA TYPES IN DIYALA GOVERNORATE

Submitted to
the Council of the College of Medicine, diyala University, In Partial Fulfillment of Requirements for the Bachelor Degree in medicine and general surgery.

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Abstract

Background.

Tinea refers to superficial infection with one of three fungal general Microsporum, Epidermophyton, and Trichophyton collectively known as dermatophyte.

Aims of study : To determine the diagnosis and identification of dermatophytes tinea type in Diyala government.

Patient and methods. A cross sectional study was conducted from baqubah general hospital , from November 2022 to April 2023. One hundred patient were randomly selected. The age group were >2months to 80 years , we conducted the study using a prepared written questionnaire.

Results : that dermatophyte fungal infections were Tinea capitis (9), Tinea faciale (4), Tinea cruires (9), Tinea corporis (8), Tinea ungium (3), Tinea pedis (5), pityriasis versicolor (12). The highest ascendant of dematophyte tinea in child and students were 25cases , 10 cases house wife , worker were 7 cases , self employed 5 cases and 3 cases retirement.

Conclusions

We conclude that the there different type of dermatophyte tinea in Diyala province and they are mostly in children and student Tinea capitis and tinea unguim and tinea pedis were all in 0-10 age group . Tinea faciei were all in female . Tinea pedis were all in older patient . .Tinea capitis were all in children and students . Tinea faciei were mostly in housewife and pityriasis versicolor mostly found in children and students.

Keywords: Dermatophyte tinea , Diyala .

Introduction

Tinea is a term used to describe a superficial infection with one of the three genera of fungi known as dermatophytes: Microsporum, Epidermophyton, and Trichophyton. All three dermatophyte genera flourish in keratinized areas like hair, skin, and nails.(1)

Anthropophilic dermatophytes only infect human hosts and cause a minimal amount of chronic inflammation. Pets, livestock, and horses are the main sources of zoophilic dermatophytes; human infection with such organisms typically results in severe inflammatory reactions. Geophilic dermatophytes from soil rarely infect people or other animals.(2)

There are different type of tinea such as tinea capitis , tinea facie , tinea cruris , tinea corporis , tinea unguim , tinea pedis .(3)

The term "tinea" is also used in the names of some cutaneous fungal infections that are not caused by dermatophytes. (4)

Tinea capitis .

Tinea capitis is a dermatophyte infection of the scalp. Tinea capitis is almost exclusively a childhood disease, and current research indicates that children of African or Caribbean descent are more likely to contract it. T tonsurans in UK cities, M canis in Europe and rural UK, and T violaceum in east Africa and the Indian subcontinent are the main culprits.(5,6)

Clinical symptoms can be mild, such as mild scalp flaking, but they can also include pustules, large inflammatory swellings (kerion), patches of frank alopecia, broken-off hairs (also known as "black dot" ringworm), and tender occipital lymphadenopathy.(7)

There are five different types of clinical Since the infection is frequently asymptomatic and goes untreated, it can spread to family members, particularly siblings, who should be screened.T tonsurans can be removed from children's personal belongings who have tinea capitis, and it is advised to sterilize objects like combs and hairbrushes.Tinea capitis rarely affects adults.(8)

Despite the fact that it can spread from a child's scalp to the head or neck and cause tinea corporis. Children who have the infection should no longer be kept out of school With inflammatory tinea, diffused eczema-like ("id") reactions occasionally manifest, usually at the beginning of systemic antifungal therapy.(9)

Picture 1: tinea capitis

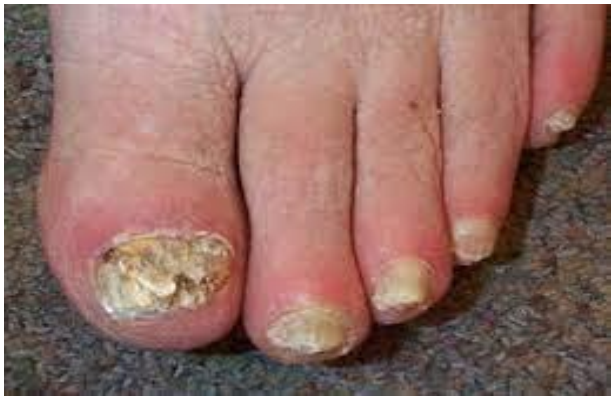
Tinea unguium.

Onychomycosis is another name for the dermatophyte infection of the nails known as tinea unguium. In general, nail plates exhibit onycholysis and may be thickened, brittle, or distorted. (lifting of the nail plate). Distal and lateral subungual, proximal subungual, superficial white, endonyx, and total dystrophic onychomycosis are the five main tinea unguium presentations currently recognized, though a recent review has proposed refining this classification to help focus treatment according to species.(10)

At least 12.4% of people in Europe have onychomycosis, and patients with untreated HIV infection frequently experience an aggressive and atypical

disease course . more frequently than fingernail disease, onychomycosis affects the toenails. Onychomycosis is more common in psoriasis patients because the abnormal psoriatic nail serves as a portal for fungal entry.(11)

Laboratory confirmation is required prior to the start of oral treatment and should be repeated at the conclusion of treatment because the two conditions may be clinically similar. Because psoriatic nail dystrophy does not respond to antifungals, failing to do this could result in unnecessary or unnecessarily lengthy treatment regimens.HIV type 2 (w2) may increase the risk of infection, make it more severe, and make it less likely for the body to respond to standard antifungal dosages.(12)

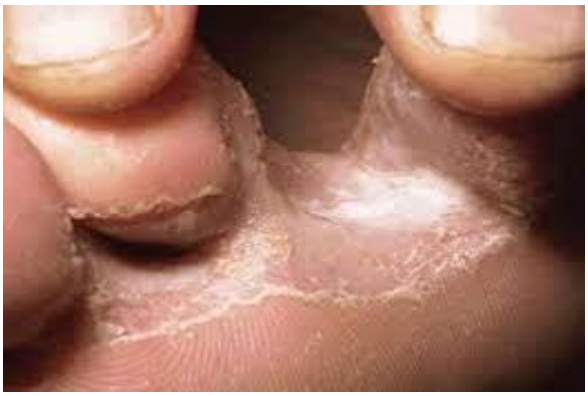


Picture 2: tinea unguium

Tinea pedis.

Dermatophytosis of the feet frequently manifests as scaling and maceration of the medially extending most lateral interdigital spaces. In the so-called moccasin or dry-type pattern of infection, hyperkeratosis of the plantar and lateral aspects of the foot may also be present Small vesicles and blisters on an erythematous base on the plantar surface of the feet are a less frequent presentation, and these lesions resemble pompholyx eczema clinically.w5.

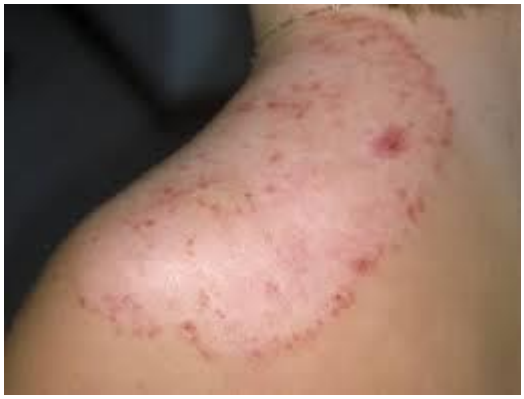
Tinea pedis is very common, especially in people who wear occlusive footwear, like athletes.(13)



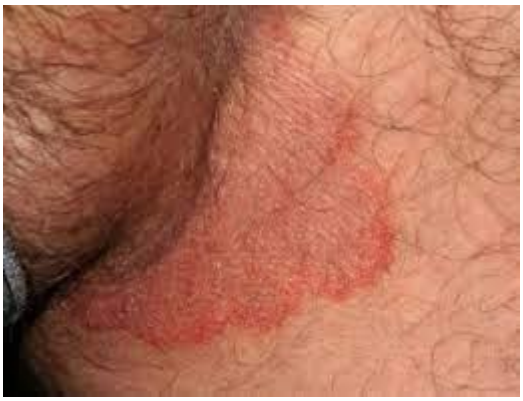
Picture 3: tinea pedis.

Tinea corporis and tinea cruris.

Dermatophytosis of the trunk and groin are referred to as tinea corporis and tinea cruris, respectively. In both cases, a pruritic erythematous rash with an active, palpable scaly edge and possible pustules or vesicles is present. Typically asymmetrical annular patches of various sizes are the result of the infection's centrifugal spread. Tinea corporis is more frequently observed in children and young adults than tinea cruris is in adult men.(14)



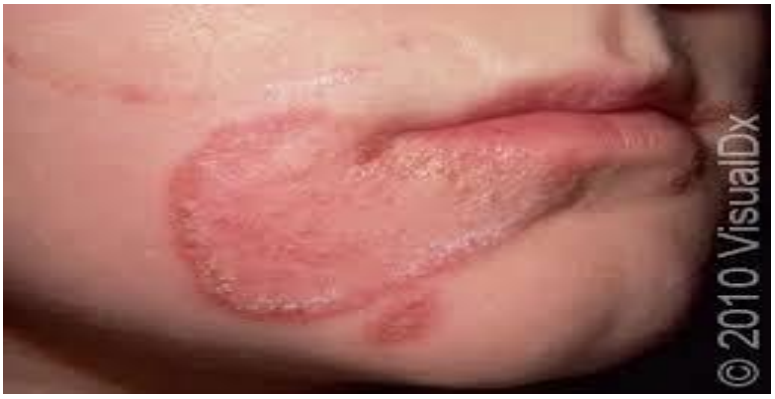
Picture 4: tinea corporis



picture 5 : tinea cruris

Tinea faciei and tinea barbae.

While tinea barbae specifically refers to an infection in the beard region, tinea faciei refers to dermatophytosis anywhere on the face. Both conditions manifest in postpubertal boys and men in a manner resembling tinea capitis.w7 Zoophilic organisms like T verrucosum or T mentagrophytes, the most frequently implicated pathogens, cause an inflammatory pustular eruption with crusting or kerion formation; T tonsurans is a more frequently occurring cause of a similar issue in wrestlers. Both this manifestation and the conventional annular scaly eruption are included under the umbrella term tinea faciei.(15)



Picture 6: tinea faceie

Aim of the study:

To determine the diagnosis and identification of dermatophytes tinea type in Diyala government .

Patient and methods:

A cross sectional study was conducted from baqubah general hospital , from November 2022 to April 2023. Fifty patients sample were randomly selected. The age group were >2months to 80 years , we conducted the study using a prepared written questionnaire . we ask them direct interview with patient using question contain age , gender , occupation .

Statistical analysis .

After collection, data were checked manually and analyzed by computer based program Statistical package of social science(SPSS) 26 version . Results were expressed as frequency and percentage.

Results

Fifty patients were collected in this study. Table 1 show that Among the 50 cases, results showed that dermatophyte fungal infections were Tinea capitis (9), Tinea faciale (4), Tinea cruires (9), Tinea corporis (8), Tinea ungium (3), Tinea pedis (5), pityriasis versicolor (12).

Table 1: distribution of types dermatiphyte tinea according to gender and age group .

Age group	Tinea capitis		Tinea faciei		Tinea cruris		Tinea corporis		Tinea unguim		Tinea pedis		Pityriasis versicolor	
	Male	Female	male	Female	male	female	male	female	male	Female	Male	female	male	Female
0-10	4	5	0	0	1	1	0	1	0	0	0	0	4	4
11-20	0	0	0	0	1	3	2	1	0	1	0	0	3	1
21-30	0	0	0	2	3	0	1	1	0	1	0	0	0	0
31-40	0	0	0	2	0	0	0	2	0	0	0	0	0	0
41-50	0	0	0	0	0	0	0	0	0	1	0	1	0	0
51-60	0	0	0	0	0	0	0	0	0	0	0	1	0	0
61-70	0	0	0	0	0	0	0	0	0	0	1	1	0	0
71-80	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Total	4	5	0	4	5	4	3	5	0	3	1	4	7	5

Table 2 show that the highest ascendant of dematophyte tinea in child and students were 25cases , 10 cases house wife , worker were 7 cases , self employed 5 cases and 3 cases retirement .

Table 2 : distribution the types of tinea according to occupation.

Type of tinea	Child and student	House wife	Worker	Self employed	Retirement	Total
Tinea capitis	9	0	0	0	0	9
Tinea faciei	0	3	0	1	0	4
Tinea corboris	3	3	2	1	0	9
Tinea cruris	3	1	3	1	0	8
Tinea unguium	1	1	0	1	0	3
Tinea pedis	0	1	0	1	3	5
Pityriasis versicolor	9	1	2	0	0	12
Total	25	10	7	5	3	50

Discussion

The skin, hair, and nails are the most typical sites of infection for the special class of fungi known as dermatophytes. This family of closely related fungi has the capacity to enter keratinized tissue and result in the infection known as dermatophytosis, or ringworm The most prevalent parasites found in both human and animal skin disorders are dermatophytes.(16)

The nonliving cornified layers are typically the only areas of infection on the skin. An infection with dermatophytes may cause mild to severe reactions. the host's responses to the fungus' metabolic products, the virulence of the infecting strain or species, the anatomic site of the infection, and local environmental factors cause the infection to become severe.(17)

In this study we clarify the type of dermatphyte tinea . Dermatophyte fungal infections were studied as the following : Tinea capitis (9), Tinea faciale (4), Tinea cruires (9), Tinea corporis (8), Tinea ungium (3), Tinea pedis (5), pityriasis versicolor (12). Tinea capitis and tinea unguim and tinea pedis were all in 0-10 age group . Tinea faciei were all in female . Tinea pedis were all in older patient . This result agree with different study .(18,20)

The majority of the patient were child and student 25cases , 10 cases house wife , worker were 7 cases , self employed 5 cases and 3 cases retirement .Tinea capitis were all in children and students . Tinea faciei were mostly in housewife and pityriasis versicolor mostly found in children and students. This findings agree with different studies .(21,23)

Conclusion .

We conclude that the there different type of dermatophyte tinea in Diyala province and they are mostly in children and student Tinea capitis and tinea unguim and tinea pedis were all in 0-10 age group . Tinea faciei were all in female . Tinea pedis were all in older patient . .Tinea capitis were all in children and students . Tinea faciei were mostly in housewife and pityriasis versicolor mostly found in children and students.

Recommendations

1-we recommended further studies with large sample size .
2- make frequent visits to schools to see the skin health of students and children.
3- make lectures to people especially to people who had animals or nearby them to increase perception of them about dermatophyte tinea type , clinical manifestation , risk factor . At same time concentrate on control and prevention of dermatophytes in Diyala government .

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