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(Different fungal pathogen which cause human ringworm)

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Abstract

Dermatophytic infections of the skin, hairs and nails are very common and are very variable in aspect. In skin, inflammatory symptoms are often absent, but in other cases they may be very pronounced, in particular when caused by zoophilic dermatophytes. In onychomycosis, it is very difficult to make the differential diagnosis with other causes of onychodystrophy on purely clinical grounds; indeed, even in case of fungal infection, the causative agent can be suspected on clinical grounds only in a minority of cases. The clinical presentation of skin infections, infections of the scalp and beard, and the nails are presented more in detail.

Introduction

Dermatophytosis in human is a real public health concern worldwide because of its zoonotic potential. However, this condition has lacked adequate attention; thus, to develop effective control measures, we determined ringworm definition, causative agent, sign and symptoms, risk factors, Moreover, mode of transmission, clinical manifestation, tdiagnosis and treatment.

The term ringworm or ringworms refers to fungal infections that are on the surface of the skin. The name is derived from the early belief was that the infection was due to a worm, which it is not. Ringworm is a fungal infection in the skin. Nevertheless, the name ringworm has stuck. Some of these fungi produce round spots on the skin but many do not. On the other hand, many round spots on the skin are not due to a fungal infection (Raja and Babu, 2011).

The type and severity of the host response is often related to the species and strain of dermatophyte causing the infection. Secondly, the dermatophytes are the only fungi that have evolved a dependency on human or animal infection for the survival and dissemination of their species.

The medical term for ringworm is tinea. (Tinea is the Latin name for a growing worm.) Doctors add another word to indicate where the fungus is located. Tinea capitis, for instance, refers to scalp ringworm, tinea corporis to fungus of the body, tinea pedis to fungus of the feet, and so on. Scientific names for the most common of the dermatophyte fungi include *Trichophyton rubrum*, *Trichophyton tonsurans*, *Trichophyton interdigitale*, and/or *Trichophyton mentagrophytes*, *Microsporum canis*, and *Epidermophyton floccosum*. (Raja and Babu, 2011).

Medical Mycology, a study of fungal epidemiology, ecology, pathogenesis, diagnosis, prevention and treatment in human beings, is a newly recognized discipline of biomedical sciences, advancing rapidly. Earlier, the fungi were believed to be mere contaminants, commensals or nonpathogenic agents but now these are commonly recognized as medically relevant organisms causing potentially fatal diseases (Reddy, 2017).

Tinea corporis, also known as 'ringworm,' is a superficial dermatophyte infection of the skin, other than on the hands (*tinea manuum*), feet (*tinea pedis*), scalp (*tinea capitis*), bearded areas (*tinea barbae*), face (*tinea faciei*), groin (*tinea cruris*), and nails (onychomycosis or *tinea unguium*) (Leeming, and Elliott, 1995.) *Tinea corporis* is most commonly caused by dermatophytes belonging to one of the three genera, namely, *Trichophyton* (which causes infections on skin, hair, and nails), *Microsporum* (which causes infections on skin and hair), and *Epidermophyton* (which causes infections on skin and nails) (Sahoo, and Mahajan, 2016.)

Dermatophytes are grouped as either anthropophilic, zoophilic, or geophilic, depending on whether their primary source is human, animal, or soil, respectively. Because *tinea corporis* is common and many other annular lesions can mimic this fungal infection, physicians must familiarize themselves with its etiology and its treatment. (Leung, *et al.*, 2020)

Scalp ringworm, or *tinea capitis*, largely disappeared in Great Britain after oral griseofulvin was introduced in the late 1950s (Williams, *et al.*, 1958). Over the past few years, however, dermatology departments in London, Bristol, and Birmingham have seen a large increase in cases, with rates of positive scalp isolates up to 20 times higher than previous baseline rates (Leung, *et al.*, 2020).

The distribution of lesions of *tinea corporis gladiatorum* supports the prevailing theory that this infection is transmitted through skin-to-skin contact. (Stiller, *et al.*, 1992; Beller, and Gessner, 1994; Kohl, *et al.*, 1999; Kohl, and Lisney, 2000; Adams, B.B., 2000)

If the wrestling mats played a role in the transmission of this infection, more lesions would be expected to occur on the lower extremities. Although several investigators have failed to isolate fungal organisms from wrestling mats, 6, 14 in a recent study, El Fari *et al.* (2014) identified *T. tonsurans* from mat cultures (Frisk, Å., Heilborn, and Melen, 1966).

Several host factors permit the transmission and growth of the fungal organisms among wrestlers. Abrasions and cuts, coupled with close skin-to-skin contact, facilitate the transmission of *tinea corporis gladiatorum* among wrestlers. Moisture and occlusive clothing provide an ideal environment for the growth of fungal organisms ((Stiller, *et al.*,1992;Beller, and Gessner, 1994; Dienst Jr, *et al.*,1997).

The fossil evidence of ringworm infection goes back to 125 million years back when “curious stumpy hairs on the back” of the fossil remains of *Spinolestes xenarthrosus*, one of the oldest mammals, were discovered at Las Hoyas, East-Central Spain in July, 2011 As (Martin, *et al.*,2015). far as the ringworm in humans is concerned, the early evidence can be noted in the *Charaka Samhita* (c. second century BC) which mentioned a term *Dadru* in the seventh chapter of the *Chikitsa Sthanam*, whose description resembled ringworm (Thappa , 2011)

Literature Review

Ringworm of the body

Skin is scaly, dry and unhealthy, least injury converts into suppuration. There is itching and burning which is aggravated by scratching and after washing. There is affection of skin after application of local medication(Shah, 2014).

Modalities- Complaints are aggravated at rest, when the patient is standing, by warmth of the bed, after washing, bathing, and by change of weather. And the complaints are ameliorated by the warm and dry climate, by lying on the right side (Pal, and Gadekar, 2020).

External application have no role in Homoeopathy Hahnemann strongly condemns the practice of removing the local affections from the surface of the body without curing the internal miasmatic disease. Robert in 1992 stated regarding the harm caused by external application. The local manifestation were but as outward expression of the inward and spiritual force which when disturbed expression itself in external sign, that if these external Bmanifestations were removed by local treatment that disease was not cured, but driven into some more centrally located organism. These to express itself in some grave from(Allen,1998). Usage of modern system of medicines like external applications like ointments fungicides etc. Vwhich leads to suppression or

palliations of the disease tends to recur often and becomes chronic disease. The disease is usually chronic and it extends over month to year eczematization and lichenification may become complication features of chronic cases, J. Henry Allen his Diseases and Therapeutics of the skin say that Herpes circinnatus (ringworm of the surface) is usually treated and with fair success by (Robert, H.A., 1992).



Figure (1); showing affect wring worm human body especially attacke different part of integumentary system.

Diagnosis

Laboratory findings for the correct diagnosis *Tinea corporis* the spreading Ringworm with active erythematous border-specimens for KOH examination should be Obtained from the actively spreading border of the lesion.

(1) Microscopic examination of skin scrapings for fungi

sessentialin dermatologic. Fungal eruptions may closely resembled ermatitis. Microscopy of potassium hydroxide-cleared skins crappings called a KOH exam takes only a few minutes and is simple principle doing (Murgod,2005, Robert,1992.; Weekes,1955).

Treatment

Therapy consist of good removal of infected and dead epithelial structures and application of a topical antifungal agent or antibiotics, to prevent reinfection,the area should be kept dry and sources of infection suchas an infected pet or shared bathing facilities should be avoided, antifungal agents such as Griseofulvin, Miconazole, Ketaconazole, Terbinafine, one the best treatment used diseases fungaemia.

Homoeopathic remedies

Mezerium

Given in case scrusted lesions with unhealthy with intense itching, Burning and Erythema around the lesion(Pal, and Gadekar, 2020).

Ignatiaamara

Eruptions are dryness, cracking, vesicles, burning, itching,smarting, Stinging. Itching changes place on scratching, Agg by morning, when overheated, on Warm becoming, Amel by scratching, with pain(Murgod, 2021).

Natrummur

Eruptions are hairy and perspiring part, granular, dry vesicular crusty, Desquamating, pemphigus. The eruptions are worse from exposetosun, Scaling of the lesion is seen after scratching eruptions appeared being over heated (Dearborn, 2002).

Sulphur

Skin dry scaly unhealthy; every little injury suppurate, Itching burning; worse Scratching and washing. Pimple eruption; worse scratching and watching pimple eruption Pustules. rhagades, hangnail, excoriation especially in folds. Feeling of hands around bone Skin affection after local medication pruritus especially from warm thin evening of tenrecur Inspring time in damp weather (Murgod,2021).

Sepia

Tineacircinata; brownish or fawn colored vesiculopapularring; itching, which Changes to burning on scratching. Frequents eat of the disease in flexures of the body, face, hand, anterior surfaces

of the body; worse in the spring of they ear; dry, brown, Rough herpetic spots, dry ring worm (Boericke,1993).

Tellurium

Tinea circinatus is red elevated ring on any part of body, small, bright red spot covered with scales (fawn colored, sepia) Minute, grayish colored vesicles on the Papillary ring; severe itching day and night; elevated ring of vesiculo papules, with fine Stinging, pricking, itching that disappeared by desquamation; eruption worse upon the lower extremities (Boericke,1993).

Tinea corporis

Tinea corporis is the commonest clinical variety of dermatophyte infection in India. It is distributed worldwide. It is most common in tropical regions (Gupta, and Manchanda, 2005).

Tinea corporis Characterized by pea sized, pale red, well defined,slightly raised macule which soon becomes scaly and tends to clear in the center as it spreads peripherally, developing Ring like or annular lesion so it is called as ring worm of the body, Herpes circinatus. The border is generally elevated during evolution, sharply defined and may present papules, vesicles and scales *Tinea corporis* may appear alone or in associated with the other forms of ring worm (Van, 2005).

Tinea corporis is found in most parts of the world, but particularly in hot humid climates. It is most commonly seen in children and young adults, however all age groups can be infected including new born (Ganganagar, 2017).

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