Cutaneuos Mycoses

Introduction:

cutaneous mycosis:are caused by fungi that infect only the superficial keratinized tissue( hair , nails & skin) , the most important of these are the dermatophytes .

***Dermatophytes:*** agroup of about 40 related fungi that belong to three genera:

* + Microsporum
  + Trichophyton
  + Epidermophyton.

Dermatophytoses are probably restricted to the nonviable skin because most are unable to grow at 37C or in the presence of serum.

***Classification of dermatophytes:***

Dermatophytes can be classified depending on their hapitat to : ***1- Geophlict:***the habitat is soil.***:***

***2-Zoophilic:***the habitat is animals.

In general, these species are being less adapted to human hosts ,produce more acute inflammatory infections that tend to resolve more quickly .

***3-Anthropophilic:***cause the greatest human infection ,and cause mild &chronic infection, and may be difficult to eradicate

***Infection source and affecting factors:***

* Dermatophyte infections begin in the skin after trauma and contact with contaminated soil or infected animals or human.
* There is evidence that host susceptibility may be enhanced by: Moisture, Warmth, specific skin chemistry m composition of sebum and perspiration ,youth ,heavy exposure, and genetic predisposition).
* The incidence is higher in hot ,humid climates ,and under crowded living condition.
* Anthropophagic species may be transmitted by direct contact or through fomits ,such as contaminated towels ,clothing , shared shower stalls,…..ect

***Clinical Finding:***

Dermatophyete infections were mistakenly termed ***(ring-worm)*** or ***(tinea)*** because of the raised circular lesions .

There are some types of dermatophyte infections:

***A-Tinea pedis (athlete’s foot):***

* It is the most prevalent of all dermatophytes.
* It is usually occurs as chronic infection of the toe webs.
* Infection causing itching between the toes &the development of small vesicles that rupture &discharge a thin fluid. ***B-Tinea unguium(Onychomycosis):*** Nail infection may follow prolonged tinea pedis .With hyphal invasion ,the nails become yellow,brittle,thickened, and crumbly.

***C-Tinea Corporis ,Tinea Cruris ,&Tinea Manus:***

* Infected of the glabrous skin (non hairy,smooth skin).
* Circular patches with a clearing ,scaly center bya red advancing border that may be dry or vesicular.
* Cause dry ,scaly lesion may involve one or both hands.
* Theygrow only with in dead, keratinized tissue, but fungal metabolites, enzymes, and antigens diffuse through the viable layers of the epidermis to cause erythema,vesicle formation, and pruritus.

***D-Tinea Capitis &Tinea Barbae:***

* Infected scalp hair.
* The infection produces dull gray ,circular patches of alopecia, scaling, and itching. ***E-Trichophytid Reaction:***

In the course of dermatophytosis,the individual may become hypersensitive to constituents or products of the fungus and may develop allergic manifestations –called dermatophytids(usually vesicles)-elsewhere on the body, most often on the hands.

***Diagnostic Laboratory Tests:***

1. ***Specimens:*** consist of scrapings from both the skin and nails plus hairs plucked from involved area .
2. ***Microscopic examination:*** specimens are placed on a slide in a drop of *10-20%* *potassium* *hydroxide,* with or with out calcoflour white ,which is a non specific fungal cell wall stain viewed with a fluorescent microscope .
3. ***Culture :***The identification of dermatophte species requires cultures. Specimens are inoculated on to inhibitory *mold**agar* or

*Sabouraud’s**agar**slants* containing *cycloheximide* and *chloramphenicol* to suppress mold and bacterial growth , incubated for 1-3 weeks at room temperature ,and further examined in slide cultures if necessary.

***Treatment:***

* 1. Removal of infected and dead epithelial structure.
  2. Application of antifungal chemical or antibiotic .
  3. The area should be dry and avoid the source of infection to prevent reinfection. ***Tinea capitis:***

Treated with oral administrated of griseofluvin or terbinafine.

***Tinea corporis and Tinea pedis:***

Continued treatment for 1-2 weeks with itraconazole and terbinafine.

***Tinea unguim:***

Treated with oral administration of itraconazole or terbinafine for months ,surgical removal of the nail.

**With My Best Wishes**