

Lecture 4 :

## **Superficial mycosis, tinea types and dematiaceuos (black fungi)**

### **DEFINITION AND GENERAL CHARACTERISTICS OF CUTANEOUS MYCOSES:**

Fungal diseases that affects the skin, hair and nails. They are generally restricted the keratinized tissue.They cause inflammatory response.

### **DERMATOPHYTOSES:**

Etiological fungi are called “**dermatophytes**” (They are keratinophilic fungi)

- There are 3 genera:-

Microsporum

Trichophyton

Epidermophyton

- Dermatophyte infections are called **Tinea (= Ringworm)**

### **Ring worm DERMATOPHYTES ARE CATEGORIZED INTO 3 TYPES ACCORDING TO SOURCES OF INFECTION**

1. Geophilic dermatophytes
2. Zoophilic dermatophytes
3. Anthropophilic dermatophytes

### **GEOPHILIC DERMATOPHYTES**

Inhabit soil where they decompose keratinaceous debris of dead animals

1-Microsporum gypseum :-

2- Microsporum nanum:-

### **ZOOPHILIC DERMATOPHYTES:-**

Parasitic on animals:-

1-Trichophyton equinum

2-Microsporum canis

3-M. mentagrophytes var Mentagrophytes

### **ANTHROPOPHILIC DERMATOPHYTES :-**

Primarily parasitic to man. Man as exclusive host for maintenance and dissemination of species

1-Trichophyton rubrum

2-Trichophyton schoenleinii

3-Trichophyton tonsurans

4-Trichophyton mentagrophytes var interdigitale

5-Microsporum audouinii

6-Epidermophyton floccosum:-

### **Clinical manifestations of dermatophytoses:**

**A. Skin invasion** = ringworm

#### **B. Hair invasion**

Favic type (inside, with oil deposits and air)

Ectothrix type (outside; the hyphae are accumulated around the hair shaft)

Endothrix type (inside)

Tinea capitis Scalp, eyebrow, eyelashes

Tinea favosa Cup shaped crusts

Tinea corporis Rings with scaly centers

Tinea imbricata Concentric rings caused by T. concentricum

Tinea barbae Bearded area of face and neck

Tinea cruris Jock itch, moist groin area

Tinea pedis Athlete's foot Toe webs, soles and nails

Tinea manuum Interdigitate areas and palmar surfaces

Tinea unguium (Onychomycosis) Invasion of nail plate Thickened, discolored and brittle nails

## **Dermatophytes (Cutaneous mycosis):**

### **1-Microsporum :-**

Infect skin, hair and nails

#### **Microscopic appearance :**

Macroconidia: Rough walled

Microconidia: Present :

Macroconidia more than microconidia

### **2-Trichophyton:-**

Infect skin and hair

#### **Microscopic appearance :**

Microconidia: Present :-

Microconidia more than macroconidia

Macroconidia: Smooth walled

### **3- Epidermophyton:**

Infect skin and nails

#### **Microscopic appearance**

Macroconidia: Smooth walled:-

Microconidia: ABSENT: Chlamydoconidia

## **Black fungi:**

### **Black Fungus or mucormycosis**

is a rare but dangerous invasive fungal infection caused by a group of molds called **mucormycetes**.

- Black fungus commonly affects the sinuses and lungs but can affect skin and brain.
- People can get infected when they inhale the mold spores or touch the mold spore.
- A skin infection can occur after the fungus enters the skin through a scrape, burn, or other type of skin injury.
- Mucormycosis is not contagious from person to person. You cannot get it from an infected person.
- Most cases of mucormycosis are sporadic (meaning they occur infrequently)
- but outbreaks do occasionally occur. Most outbreaks are associated with water leaks, poor air filtration, building construction, and natural disasters.
- Healthcare providers who are concerned about an unusual number of cases should contact their state or local public health department
- Symptoms depend on where in the body the fungus is growing and can include facial swelling, fever, skin ulcers, and black lesions in the mouth.