Superficial Mycoses

Tinea Versicolor or Pityriasis versicolor

Org: Malassezia furfur

CF: flat round scaly patches of hypo/hyper pigmented skin

⇒ non-inflammatory
⇒ non-pruritic
→ neck, chest, upper arms

Other manifestations:-
1) Seborrheic dermatitis
2) Atopic dermatitis
3) folliculitis
4) Disseminated infects

Lab Diagnosis-
Direct microscopy & 10% KOH
Spagetti & meatballs appearance
Culture - SDA + chloramphenicol overlay
Typical - fried egg colonies
Appear after IP: 5-7 days at 37°C
Urease test - positive
Wood's lamp = golden yellow fluorescence

Rx:- Selenium sulfide shampoo
Ketoconazole shampoo, Terbinafine

Tinea nigra

painless black non-scaly patches present on palm & sole

Org:- Hortaea werneckii

Lab Diagnosis:-
Woods lamp examination
fluorescence is due to presence of pteridine pigment in cell wall.
Direct: 10% KOH - skin & hair
20 - 40% nail
Calcofluor white stain
Culture:- SDA IP: 4 weeks
IT: 26-28°C
Potato dextrose agar
↓
Sporulation
Macro:- rate of growth
Texture
pigmentation
colony topography
Micro - Tricho:- macroconidia: rare
Thinwalled smooth penail
Micro: Numerous macro. Spindle

Piedra

White

Org: Trichosporon beigelii
↓
creamy white colonies

Black

Piedraia hortae

Dermatophytes

↓

Trichophyton
Microsporum
Epidermophyton

- Predisposing factors
moist humid skin + tight ill fitting underclothing
Spread - scratching
Skin - dermatophytes
↓
centrifugal patterns
nail - lateral or superficial nail plate
hairshafts - Endothrix Ectothrix

→ Epidemio:-
Macro - clubbing

Rx: Oral Terbinafine Itraconazole

SUBCUTANEOUS MYCOSES

Mycetoma | Sporotrichosis | Chromoblastomycosis | Phaeohyphomycosis | Rhinosporidiosis

✱ Mycetoma :- Also - Madurramycosis or Madura foot

Chronic, slowly progressive granulomatous infection of skin & subcutaneous tissues.

Etiology :- Eumycetoma :- fungal agents that produce black or white granules.

- Black :- Madurella mycetomatis
  Madurella grisea
- White :- Pseudallescheria boydii
  Aspergillus nidulans
- Actinomycetoma :- Nocardia species or Actinomadura madurae.
  They produce white to yellow granules.

Clinical features :-

1) Painless subcutaneous swelling
2) discharging sinuses
3) discharge oozing

Eumycetoma :- single swelling with serous discharge + black & white granules

Actinomycetoma :- Swellings - multiple with purulent + white granules

M/C site = FEET

✱ It can invade underlying fascia & bones producing osteosclerotic & lytic lesions.

Laboratory Diagnosis :-

Specimen collection: lesions should be cleaned with antiseptics, grains to be collected on sterile gauze by pressing the sinuses

Direct examination: washed in saline, crushed b/w slides examined.

↓

KOH → Black granules

White :- gram staining + modified Acid fast

HP - eumycetoma

Culture :- fungal - SDA
bacteriological = LJ media

Rx :- Eumycetoma : Itraconazole or Amphotericin B

Actino :- Welsh Regimen

✱ SPOROTRICHOSIS :- Also Rose gardener's ds

Causative Org :- Sporothrix schenckii

Source : decaying vegetations & soil

Risk factors :- ~~pvc~~ barefoot, farmers & gardeners

Transmission :- thorn prick

CF - chronic subcutaneous pyogranulomatous ds.

IP = 3 weeks

⇒ Lymphocutaneous type (80%) - nodular ulcerative lesions - sporotrichoid pattern of spread.

⇒ Others :- osteoarticular, pulmonary, disseminated

⇒ Diagnosis : S. schenckii - dimorphic
HP :- yeast form at 37°C - cigar shaped asteroid bodies
mold form at 25°C - mycelial form slender delicate hyphae with conidia

Rx :- Itraconazole

✱ CHROMOBLASTOMYCOSIS :-

Caused by dematiaceous or phaeoid fungi : Fonsecaea, Phialophoram, Cladosporium

Morphology : sclerotic body or medlar bodies

✱ RHINOSPORIDIOSIS :

→ chronic granulomatous ds.

→ characterized by : large friable polyps in the nose

→ Agent :- Rhinosporidium seeberi

→ Source : Stagnant water

→ Diagnosis : HP of polyp :- spherules (large sporangia with endospores)

Stained :- MUCICARMINE stain

Rx :- Radical surgery with cauterization.

✱ Penicillium marneffei infection

→ thermally dimorphic fungi

→ CLF - produces both systemic and skin lesions (warty lesion)

molluscum contagiosum

→ HP :- oval yeast cells + central septum

→ Culture - Brick red pigment

→ Rx - Ampho B

Actinomyces :- anerobic and non-acid fast ~~bacilli~~ G+ve saprophytes and commensals of oral cavity. Actinomycosis ⇒ A. israelii

Pathogenesis :- Chronic suppurative granulomatous inf. characterized by multiple abscesses with formation of sinuses, discharge containing granules and on later stages fibrosis and tissue destruction.

Mode of inf : endogenous :- dental extraction

Bact → grow in anerobic niche → inf. response → painless indurated swelling with sinuses which only drain pus.

C/M :- Oral cervicofacial actinomycosis - lumpy jaw

Others :- thoracic, pelvic, abdominal, brain abscesses disseminated form

Lab Diagnosis :-

Specimen :- Discharge from sinus, rarely sputum, bronchial washings and cervicovaginal secretions.

DM :- Gram Staining :- (Brown - Brenn modification) - shows central mass of gram-positive branching, filamentous bacilli, radiating peripherally with hyaline, club shaped ends.

HP staining :- Granules composed of eosinophilic clubs + surrounding basophilic filaments.

Culture :-

Pus contain S granules → washed → 37°C (Anerobically) :-

1) Thioglycollate broth :- fluffy balls

2) BHI Agar :- spidery colonies