Superficial mycosis

|  |  |  |  |
| --- | --- | --- | --- |
| **Pedira** | **Tinea nigra** | **Pityriasis versicolor** |  |
| White | black |  |
| -soft brown , cream , less firm  | -firm hard, dark brown nodules on hair shaft  | -Macular brown lesion or black stripes on palm of hand or sle or foot | -Brown or discolored or white patches on skinafeect stratum corneum white lesions don’t tan  | **describtion** |
| -trichosporon beigelii-imperfect yeast | -piedira hortae  | -demataious imperfect mold fungus -phaeoannellomyces werneckii=exophilia werneckii | -Malazia furfur -Yeast (pityrosporium orbiculare) | **etiology** |
| -pseudohypha , blastospores , athrospores  | -Ascomycytes, loculoascomycetidedae -cerebriform coloni -scostroma, asci , ascospoes | -annellospores from annellides (unicellular or 2 celled) | -Blastomycitides , bipolar buding , skin flora | **Histology!****culture** |
|  |  | -vegitation derbs | Endogenous (skin flora) | **Source of infection** |
| -culture on SDA (no cycloheximide) : cream beig yeast with wrinkled surface | -hair with nodules -KOH--SDA (mycobiotic medium): culture | -Skin scrapin -KOH : brown septate hypaha -SDA (mycobiotic medium): dematiatious fungus-LTM & LPCB : for identification  | -Skin scrapin -KOH : short hyphal segament with round yeast cell-SDA (mycobiotic medium)+ oily substance | **Labatory diagnosis** |
| -friable nodules  | -nodules contain fungal elements |  | Require Oily nature | **Special features**  |
| -2% salicylic acid -3%sulfar ontimants -whitfield ontimants(benzoic acid -Ketonazole-for pediracut hair & clean with mild fungicide (1:2000 bichloride mercury ) or 2% salicylic acid or 3%sulfar ontimants then nizoral =keonazol (shampoo) | **Treatment**  |

subcutaneous

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **sporotrichosis** | **chromoblastomycosis** | **phayohyphomycosis** | **lombomycosis** | **rhinosporidium** |  |
| Lymphocutaneous , SC  |  | S.C or brain abscess  | Cutaneous-S.C fungal infectionChronic (localized) | Mucocutaneus fungal infection | **describtion** |
| S.C granulomatous lesions- suppurate , ulcerate Lesions are nodules or ulcer in local lymphatics  | Lesion: hyperkeraiotic , verrucous,violaceous pedenucuklus , cauliflower, initially ulcerative (autochthonous spread) |  | Lesion : keloidal-verrucoid-nodular  | Lesion : polyps , papillomas,wart-like lesion  | **symptoms** |
| Dimorphic , imperfect fungus sporothrix schenckii: yeast (human ) & 37 cultureMold cultere (flwoerttes of conidia) @ room temp | Dematiaceous imperfect mold fungi phialophora verrucosa ,fonsecaea pedrosoi, exophiala, cladosporium  | Dematiaceous imperfect mold fungi \*  | Locazia loboi (loboa lobi) obligately parasitic fungus | Rhinosporidium seeberi obligately parasitic fungus | **etiology** |
| Agriculture communities, trees , shrubs , plant derbs | Wood plants, woods, agriculture soil | Wood plants, woods, agriculture soil |  | More seen in communities near swamp | **Source of infection** |
| Specimen biopsy: (ulcerative material) DM: smear : finger like yeast cells , cigar shaped or oval , asteroid bodies Cultere : room temp(moldBlood agar 37 (yeast  | Specimen biopsy : (tissue )DM: KOH or smear(brown cells with septa)brown muriform cells = sclerotic bodies Culture: SDA & mycobiotic nedium (very slow growing | Specimen biopsy : (pus, tissue )DM: KOH or smear (brown septate hypha)Culture: SDA & mycobiotic nedium (very slow growing black or gray colonies | Specimen biopsy (tissue) -D.M: chain of cells-culture : -ve  | Specimen biopsy (tissue)-D.M: stained section or smear or KOH will show spherules with endospores-on SDA: -ve | **Labatory diagnosis** |
| finger like yeast cells , cigar shaped or oval , asteroid bodiesflwoerttes of conidia |  | Neurologic PHM: r.mack and c.bant | Doesn’t grow in artificial media, or on tissue culture | Believed to be hyphochytridomycetesDon’t grow in artificial media, grow on tissue culture | **Special features**  |
| Septrin , KI | S.C: clean surgical exiosion of lesion + antifungalCerebral PHM: aspiration of pus + antifungals - amphotericin B,5-flurocytosin (5-FC ) -Azoles (vorcionazole, posaconazole -caspofungin | Surgical excision of lesion | Cryosurgical excision of lesion (relapse is common) | **Treatment** |
| Extremities + joints | Feet and legs mainly  | Thigh, legs , feet, arm ….(brain) | Face , ears, arms , legs | Nasal, oral(palate, epiglottis), conjuctiva , | **site** |

\*cladosporium, exophiala, wangiella,cladophialophora bantiana (c.antianum), ramichloridium (rhinocladiella) mackenziei, bipolaris , drechslera , rhinocladiella , c.caladosporoides, e.jeanselmei, w.dermatitidis

OPPURTONUSTIC YEAST INFECTION

|  |  |  |  |
| --- | --- | --- | --- |
| **Geotrichosis** | **Trichosporonosis** | **cryptococcosis** |  |
| Opportunistic yeast infection | **describtion** |
| Geotrichum conidium | Trichosporon beigelii | Cryptococcus neoformans true yeast | **etiology** |
|  |  | Pigon habitats | **Source of infection** |
| In culture: yeast with psedohyphae, hypha , athrospores Clinical specimen : budding yeast cells and pseudohypha | In culture : yeast with psedohyphae, athrospores , blastosporesClinical specimen : budding yeast cells and pseudohypha | Specimens : SCF/body fluids /tissueDM: india ink (or nigrosin –ve stain ) will show encapsulated budding yeast cellsStained smearLunar cells may be seen in tissue (crescent cels)Culture on SDA-BHI- 37 grow fast-sereology latex aggulation (rapid)ID/CIE: Ab test (cross reactivity with rheumatoid factor | **Labatory diagnosis** |
|  | Urease +ve | IC hostEncapsulated yeast cellsHas melaninUrease +veProduce phenol oxidase hence forms chocolate colonies on caffeic acid (bird seed agra media) | **Special features**  |
| Amphotericine B | Amphotericine B | Amphotericine B , 5-FC | **Treatment** |
| Pulmpnary (usually) | Meningeal (cryptococcal meningitis) or pulmonary | **site** |
|  |  | Filobasidiella neoformans (basidomycetes) | **Perfect stage** |

PRIMARY SESTYMIC MYCOSES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Paracoccidiomycosis  | Coccidomycosis(valley fever) | Histoblasmosis CAVE DISEASE | BLASTOMYCOSIS |  |
| Common in north America and to lesser extent south America (not common in other parts in the world) | **distribution** |
| Additional symptoms ulcers in buccal mucosa and lymphadenopathy  | start respiratory could be self limiting | Intracellular infection of reticuloendothelial sys, start respiratory could be self limiting Pulmonary form is similar to TB there is cessation and fibrosis Disseminate to RES | Pulmonary form progressive if not treated disseminates to skin , SC tissue ,bone, CNS | **describtion** |
| Paracoccidioides brasiliensis Dimorphic imperfect moiliaceous fungi) Mold in nature & in culture < 30 Yeast in human & in culture at 37 on blood agar | Coccidioides immitis Dimorphic imperfect moiliaceous fungi)Mold nature & in culture < 30 Sperules& endospores 37 and human (no yeast phase) | Histoplama capsulatum Dimorphic imperfect moiliaceous fungi) Mold in nature & in culture < 30 Yeast in human & in culture at 37 | Blastomyces dermatitidis (Dimorphic imperfect moiliaceous fungi)Mold in nature & in culture < 30 Yeast in human & in culture at 37  | **etiology** |
| -Mold is white with septate hypha and chlamydospores and lateral unicellular conidia-yeast is large with multiple nuclei, multiple buds (mariner’s wheels cell or micky mouse cell) | -Mold is white with septate hypha it produce barrel shaped athrospores that alternate with disjunctor cells -sperule phase : large sphelures upon maturity with endospores | 2 varities of species differing in yeast phase -h.cap var.capsulatum :small oval yeast cause the usual disese- h.cap var.duboisii: large yeast cell cause the African -Mold is white with septate hypha (tuberculated macroconidium , smooth microconidium ) | -Mold is white with lateral septate hypha and lateral unicellular conidia -Yeast cell is large with broad base attschment -In nature present in soil rich in organic matter  | **Description of mycte** |
|  | Soil rodent burrows (hot dry desert) | Soil rich in animals esp bat guano  | Soil of restricted habitat | **Source of infection** |
| Specimen respiratory,aspirates, ulcerative material ,tissue , blood for sereologyDM:budding yeast cell some large with multiple nuclei and buds Culture on SDA at room temp (mold), on blodd agar at 37 (yeast phase)Sereology : test Ab  | Specimen: respiratory (sputum or bronchoscopic ) or tissue biopsy ,or blood for sereology DM: sperules , mature 1s with endospores Grow on SDA at room temp or 37, on reduced O2 medium at 37 sperules Sereology : test Ab (ag coccidin) with ID, CIE , CF, TPT  good rising titter (infection )decline titers (remission) | Specimen: respiratory , or tissue biopsy ,or blood for sereology or bone marrow DM :intracellular yeast with large var.doubosii , small var.capsul)Culture on SDA, blood agar, BHI-A (biphasic) at 30 (mold ) , at 37 (yeast)Sereology : test Ab (ag histoplasmin) with ID, CIE , CF | Specimen: respiratory (sputum or bronchoscopic ) or tissue biopsy ,or blood for sereology DM:yeast w/broad base buddimg Culture on SDA, blood agar, BHI-A at 30 (mold ) , at 37 (yeast)Sereology : test Ab (ag blastomycin) with ID, CIE , CF | **Labatory diagnosis** |
| = South America blastomycosisRarely seen elsewhereMild cases (sulfonamide) | Endemic in southern USA children summer sickness in adults flue(rarely seen out)Sereology good no cross | Seen more in USA reported in other parts in the worldSlow growth for 1ry isolationCross reactivity with others | Cross reactivity with others | **Special features**  |
| Amphortericine B , liposomal amphotercine B , vircinazole , capsofungin | **Treatment** |
|  |  | Ascomycte reproduce sexually producing ascospores (ajellomyces capsulatum ) | Ascomycte reproduce sexually producing ascospores (ajellomyces dermatitidis) | **Perfect stage** |