

The background is a light yellow color decorated with various autumn-themed elements. There are several colorful leaves in shades of orange, yellow, and pink. There are also stylized flowers in white, light blue, and pink. Geometric shapes like squares and rectangles in colors like blue, pink, and green are scattered throughout. A thin brown branch with small buds is visible on the right side.

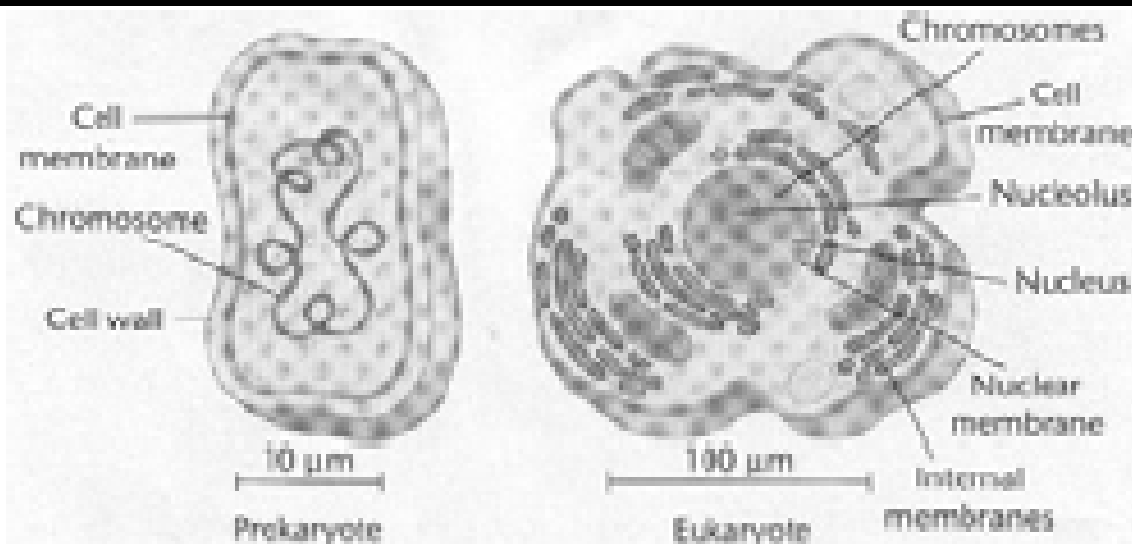
Mikologi

Irma Suswati

Fungi / Jamur

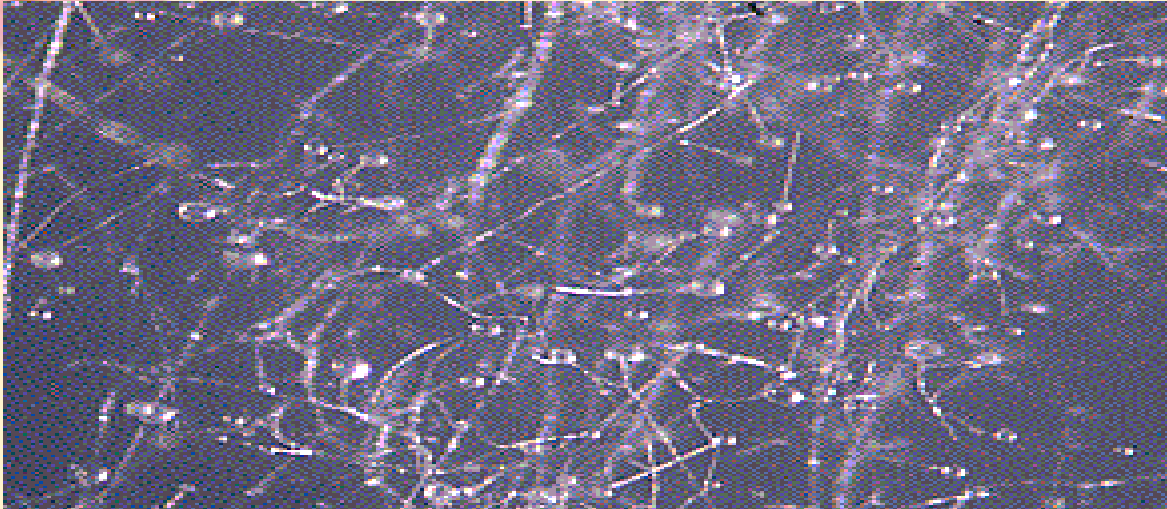
- Hidup bebas di alam (air, udara, tanah)
- 100.000 - 200.000 spesies & 300 dapat menimbulkan penyakit
- Eukaryotic
- Fakultative anaerob/strict aerob
- Nonphotosintetic

Feature	Fungi	Bacteria
Size	4 μm (smallest)	1 μm
Nucleus	Yes eukaryotes	No prokaryotes
Organelles	Yes	No
Memb. sterols	Yes	No (ex. <i>Mycoplasma</i>)
Cell wall content	Chitin Glucan Mannan	Peptidoglycan Muramic acid Teichoic acid
Dimorphism	Yes	No



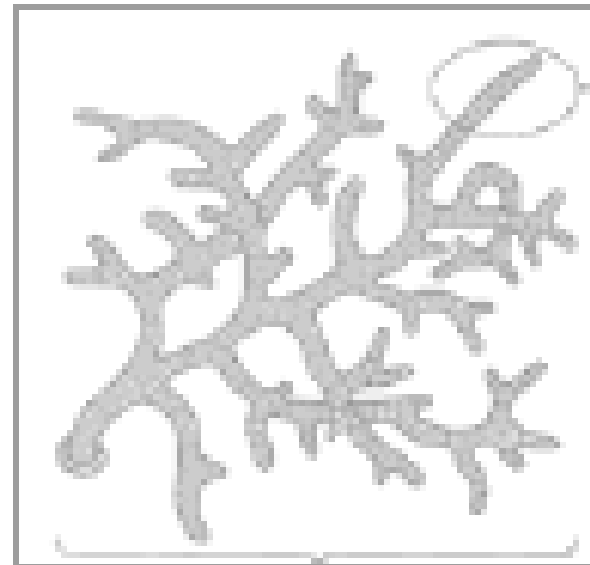
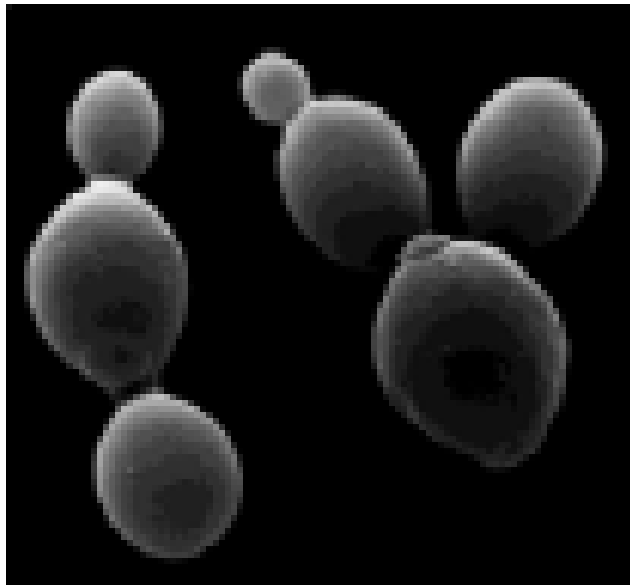
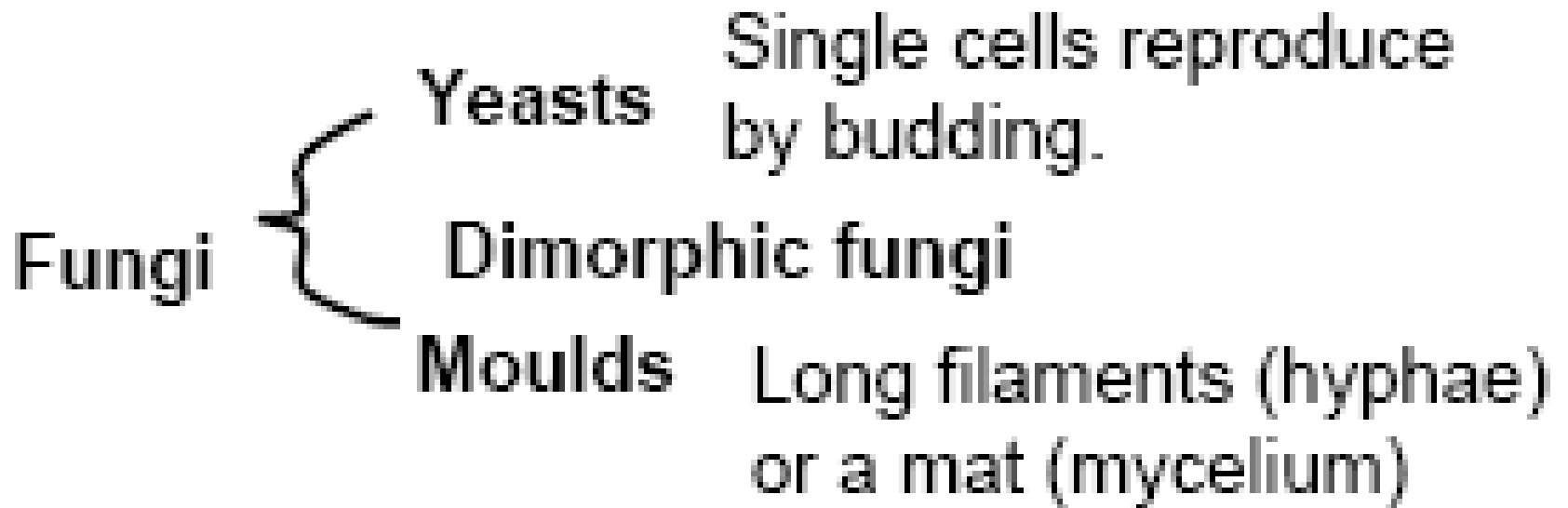
Fungal Morphology

Hypae (threads) making up a **mycelium**



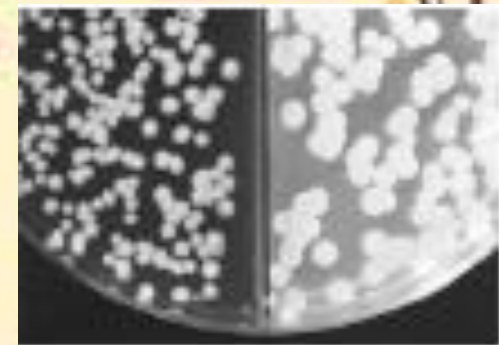
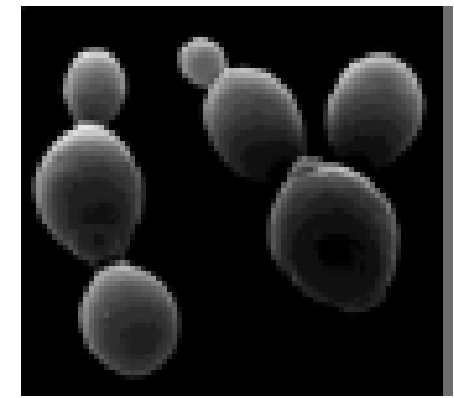
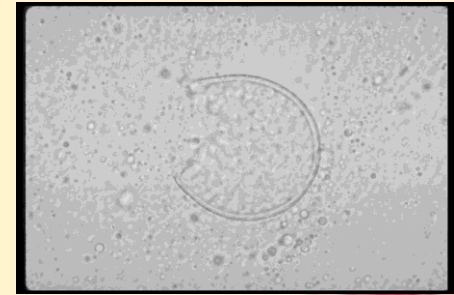
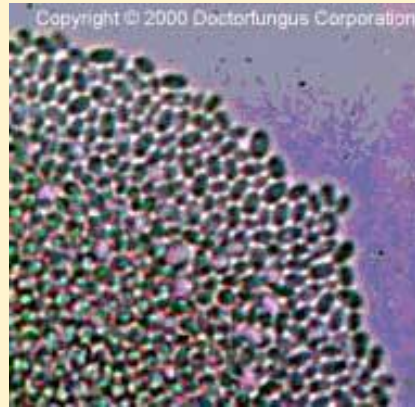
Yeasts





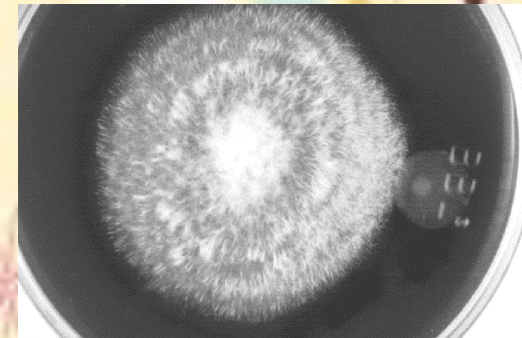
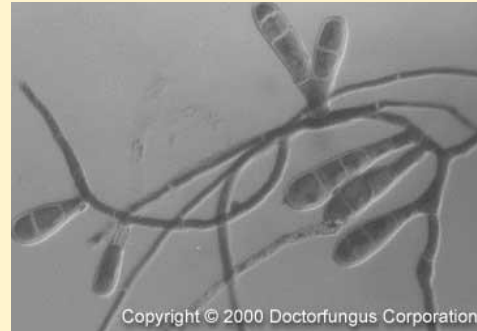
YEAST

- Unicellular
- Mikroskopik
 - Oval /bulat (3 – 15 μm)
 - Reproduksi dng budding
- Makroskopik
 - Koloni pucat (mirip bakteri)



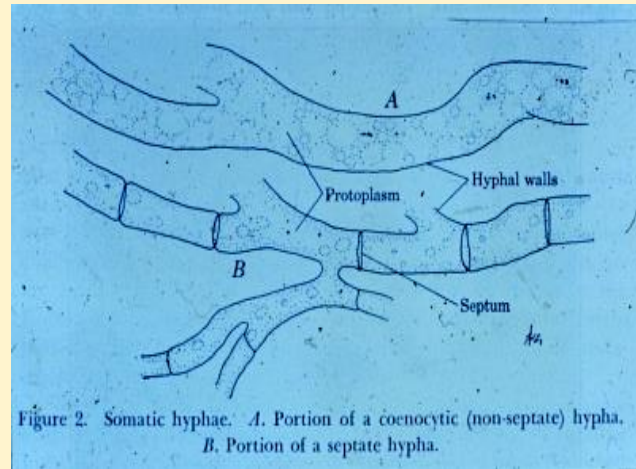
MOULD

- Multicellular
- Mikroskopik
 - Hyphae (2 - 10 μ m)
 - Spora
- Makroskopik
 - Tekstur permukaan : kapas/ wol/ beludru/ granular
 - Pigmentasi



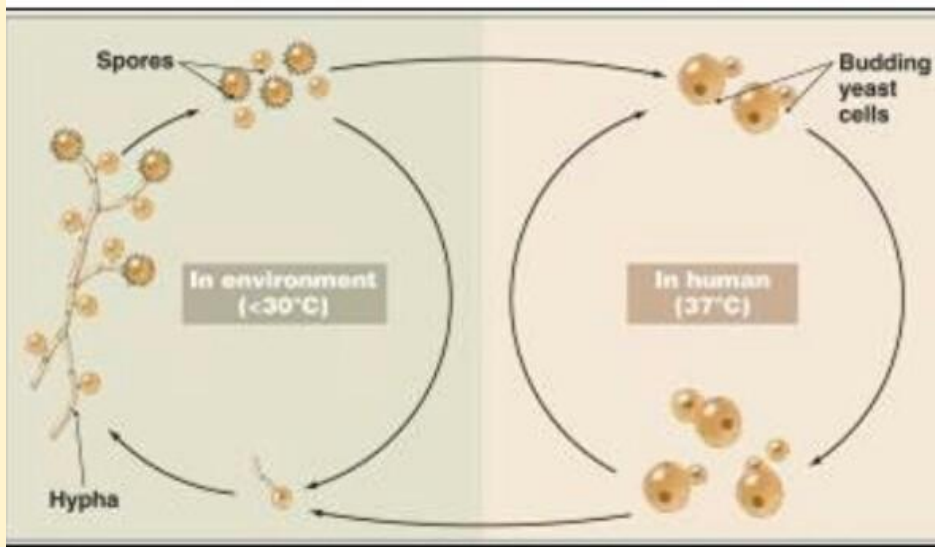
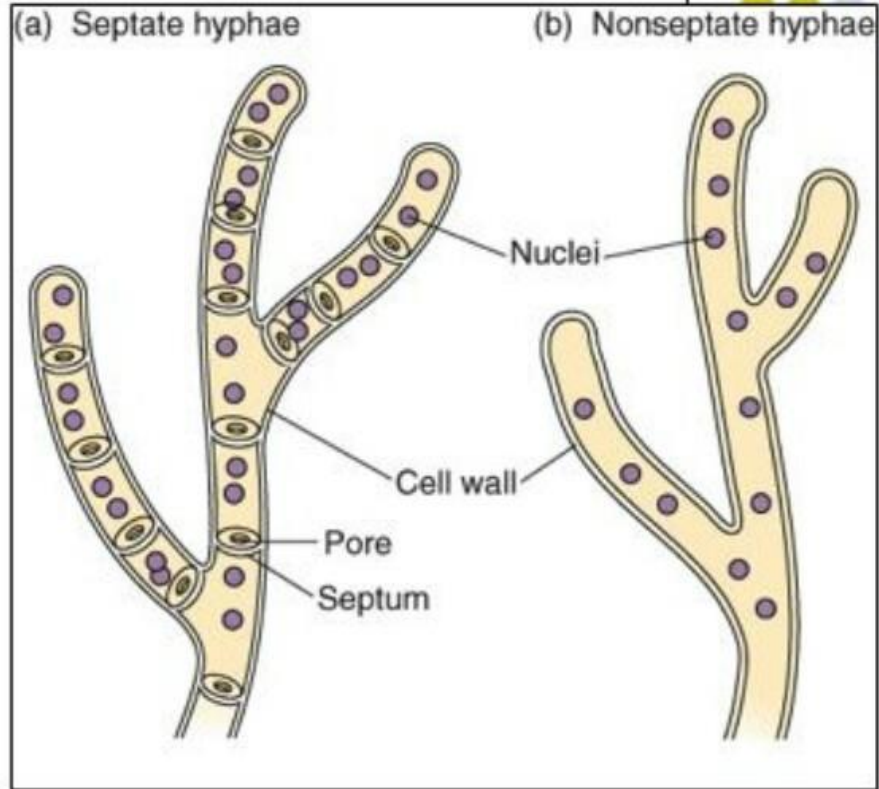
MOULD

- Hifa :
 - Bersepta
 - tidak bersepta → continuous cells (coenocytic)
- Bentuk dan morfologi hyphae
 - Noduler
 - Spiral
 - Raket
 - Pectinate
 - chandler
 - seperti akar



DIMORPHIC

- Dapat hidup dalam 2 bentuk yang berbeda sebagai mould dan yeast
- Karena perubahan suhu (temperature, CO₂, nutrient)
- Contoh : Blastomyces dermatitis yeast pada suhu 37⁰C & di jaringan mold pada 23 – 25⁰C

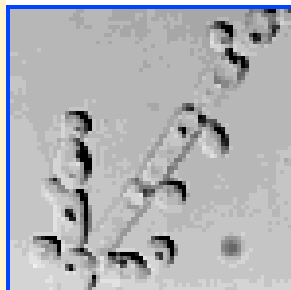
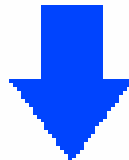
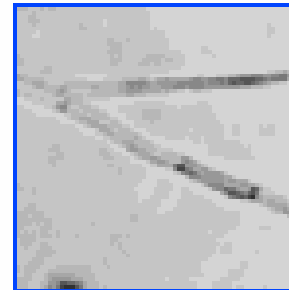
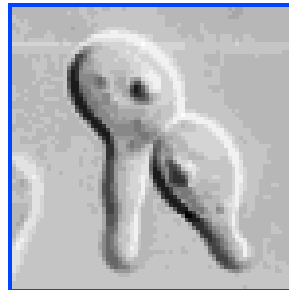
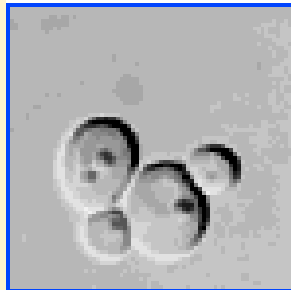


Dimorfisme

Yeast
Levures



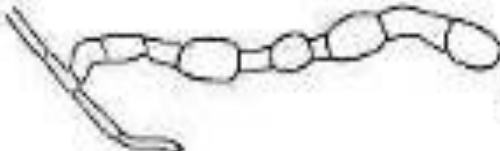



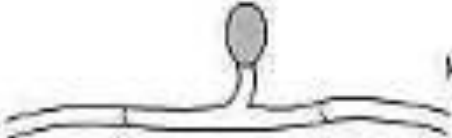


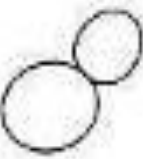


Hypha
Hyphes



Pseudohyphae
Pseudohyphes

DIMORPHIC

Fungus	In vitro (25° C)	In vivo (37° C)
<i>Blastomyces</i>	 Mold	 Yeast
<i>Coccidioides</i>	 Mold	 Spherule
<i>Histoplasma</i>	 Mold	 Yeast
<i>Paracoccidioides</i>	 Mold	 Yeast
<i>Sporothrix</i>	 Mold	 Yeast

MIKOSIS

- Bersifat subakut sampai kronis
- Dapat kambuh lagi
- Dipengaruhi :
 - keadaan geografis
 - pemakaian antibiotika
 - pemakaian obat kortikosteroid
- Perkembangannya sangat lambat
 - tidak pernah menimbulkan wabah penyakit

MYCOTIC DISEASES (4 TIPE)

1. Hypersensitivity
 - allergy
2. Mycotoxicosis
 - produksi toxin
3. Mycetismus (mushroom poisoning)
 - preformed toxin
4. Infeksi

PATHOGENIC FUNGI

- **NORMAL HOST**
 - Systemic pathogens - 25 species
 - Cutaneous pathogens - 33 species
 - Subcutaneous pathogens - 10 species
- **IMMUNOCOMPROMISED HOST**
 - Opportunistic fungi - 300 species

PORTAL OF ENTRY

- Kulit - luka
 - terbakar
 - maserasi
- Traktus respiratorius
- Traktus urogenitalis (endogenous)
- Traktus gastrointestinalis
 - Imbalance flora normal
 - Endogenous

PORTAL OF ENTRY

- Infeksi akibat terapi pada pasien (iatrogenic inoculation)
 - Kontaminasi saat perlakuan secara invasif
 - Pemberian terapi obat-obatan
 - Terapi radiasi

PATOGENESIS

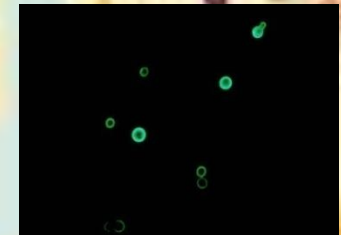
- Mekanisme patogenesis infeksi jamur masih belum diketahui secara jelas
- Beberapa faktor yang dapat menentukan patogenisitas:
 - Adherence to mucosal surface
 - Invasiveness
 - Extracellular product
 - Interaction with phagocytes

DIAGNOSIS

1. KOH Wet Mount
2. Skin test (dermal hypersensitivity) : defence mechanism, epidemic study
3. Serology : fungi (Ag), IgM, IgG
4. Fluorescent antibody : tissue, culture

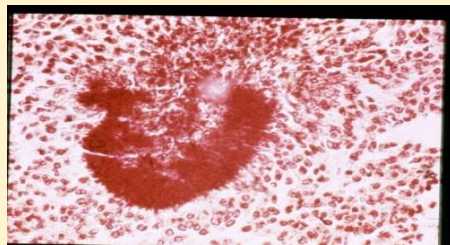


FUNGAL SEROLOGY	
	ANTIBODIES
LATEX AGGLOUTINATION	IgM
IMMUNO-DIFFUSION	IgG
COMPLEMENT FIXATION	IgG

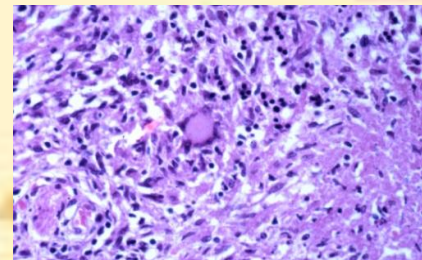


DIAGNOSIS

5. Biopsy and histopathology : inflammatory reaction (Normal host : pyogenic, granulomatous. Immunodeficient host : necrosis)



PMN
leukocyte



Giant cell

DIAGNOSIS

6. Culture (Sabouraud Dextrose Agar/SDA)

- With antibiotics
- With cycloheximide

INKUBASI

- 37°C - Body temperature
- 25°C - Room temperature

TIPE FUNGAL INFECTION

Superficial infection

- lapisan luar kulit - no immune response
- disebabkan yeasts (Dandruff)

Cutaneous infection

- Lapisan Epidermal – dapat menimbulkan immune response
- Tinea (Ringworm, Athlete's foot, jock itch)
- disebabkan Dermatophytes

TIPE FUNGAL INFECTION

Subcutaneous infection

- Chronic infection – jaringan subdermal
- intervensi; pembedahan

Systemic infection

- sering menyebabkan penyakit di paru
- disebabkan jamur dimorphic yang virulen

TIPE FUNGAL INFECTION

Opportunistic infection

- kondisi penderita immunocompromised (AIDS; altered mucosal flora due to antibiotics)

Mycoses

Deep mycoses

Brain

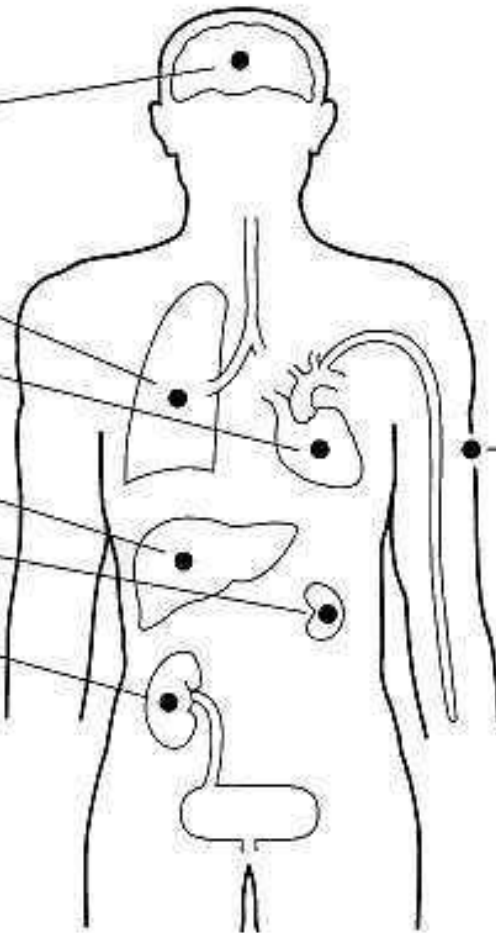
Lungs

Heart

Liver

Spleen

Kidney



Superficial, cutaneous, subcutaneous mycoses

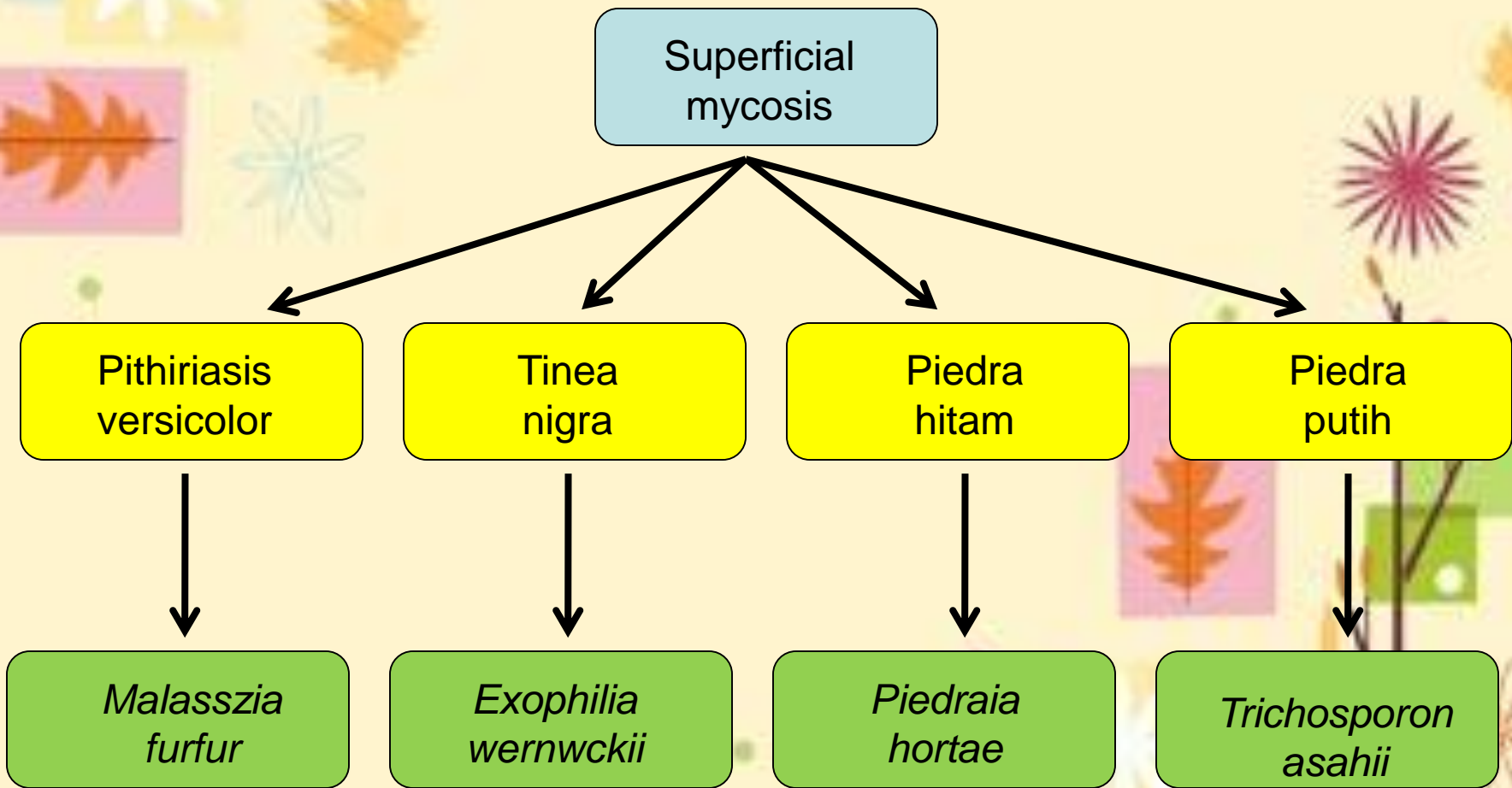
Superficial
(hair, nail, skin)

Cutaneous
(hair, nail, skin)

Subcutaneous

Superficial Mycosis

- Disebabkan oleh jamur yang virulensinya rendah, respons imun hospes juga rendah.
- Asimtomatik
- Terbatas pada jaringan terluar kulit, sedikit merusak jaringan dan umumnya tidak respon peradangan
- Lesi umumnya hipo/hiperpigmentasi, nodul-nodul pada rambut, kulit



Superficial mycosis

Pityriasis versicolor

Tinea nigra

Piedra hitam

Piedra putih

Malasszia furfur

Exophilia wernwckii

Piedraia hortae

Trichosporon asahii

Pityriasis versicolor

- Tinea versicolor, Dermatomycosis furfuracea, Tinea flava
- Bersifat kronik, ringan pada stratum korneum
- Disebabkan *Malassezia furfur*
 - flora normal kulit dan kulit kepala
 - yeast yang bersifat lipophilic

Pityriasis versicolor

- Lesi :hypo/hiperpigmentasi maculae → menyebar,kering, agak meninggi, bersisik, gatal
- Orang kulit putih : kecoklatan, hitam : lebih muda dari kulit normalnya → fungi menghasilkan dicarboxylic acid bersifat sitotoksin pada melanosit
- Umumnya kulit di dada, abdomen, punggung atas, lengan, wajah

Pityriasis versicolor

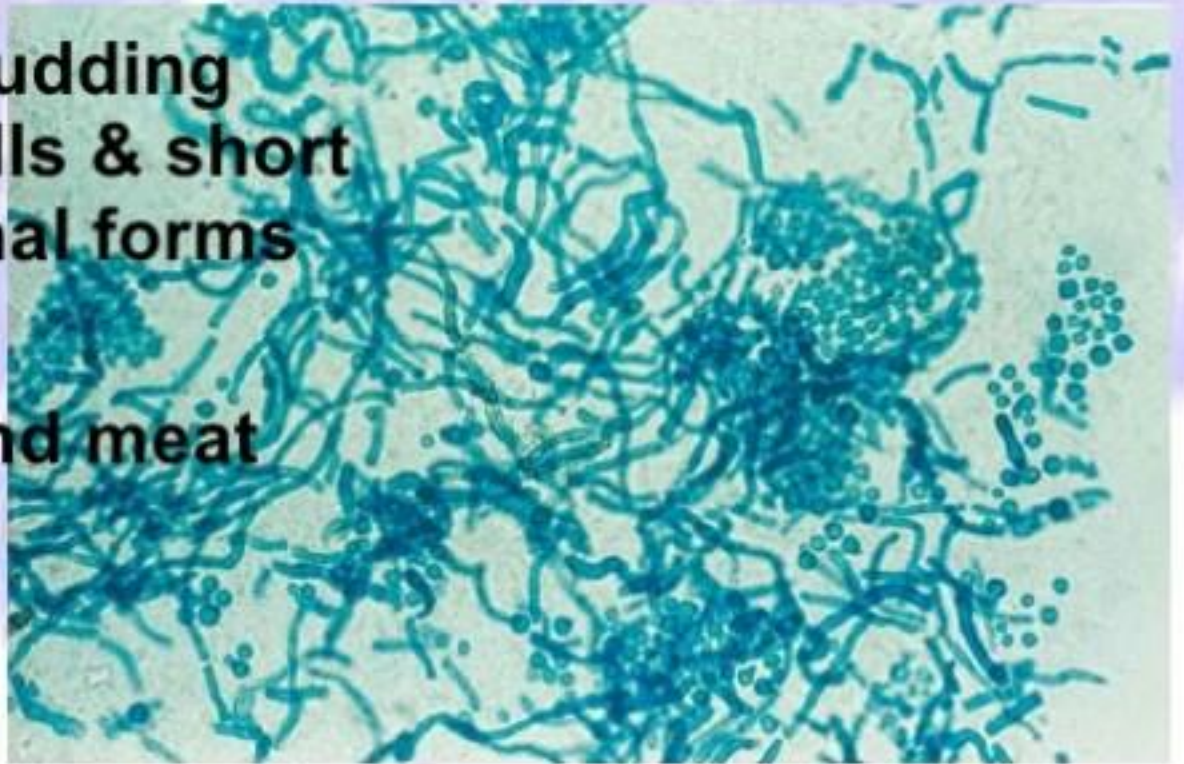
- Penyakit sistemik : pasien dengan terapi intralipid intravena dan dermatitis seboroik pada pasien AIDS
- Diagnosa : Scraping kulit + KOH 10-20% (hypha) dan Culture



Pityriasis versicolor

KOH of skin scrapings

- clusters of budding yeast-like cells & short angular hyphal forms
- “spaghetti and meat balls”



Pityriasis versicolor

Differential diagnosis

- Pityriasis alba.
- Vitiligo.
- Pityriasis rosea.
- Seborrhoeic dermatitis.



Tinea nigra



Figura 2: Mácula hiperpigmentada acometendo quase toda região palmar direita. / Figure 2: Hyperchromic macula, involving almost the entire right palmar area.



Figura 1: Mácula hiperpigmentada em forma de cone na palma da mão direita. / Figure 1: Hyperchromic conical macula in the palm of the right hand.

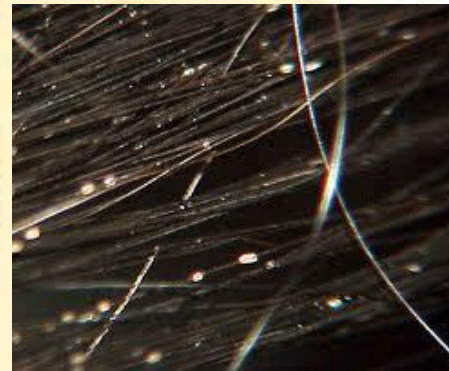
- Infeksi superfisialis bersifat kronik, asimtomatis
- Menginfeksi stratum korneum
- Disebabkan oleh dermatiaceous fungus (dinding sel mengandung melanin) = *Exophiala werneckii*
- Lesi : hitam (coklat ke hitam) pada telapak tangan dan telapak kaki
- Diagnosa :scraping (hifa berpigmen coklat) & culture

Piedra

- Infeksi jamur pada rambut
- Rambut aksila, pubis, jenggot, kepala, alis
- White piedra
 - *Trichosporon asahii*
 - Nodula putih sampai coklat, berisi hifa & lunak
 - Nodula menyatu menjadi besar (tebal) di tengah batang rambut



Hifa Piedra hortae



Piedra



- Black piedra
 - *Piedraia hortae*
 - Nodula hitam, keras, berkembang dari ujung distal, menebal hampir pada semua batang rambut
 - Nodul melekat kuat pada rambut (beda dengan nodul W.piedra)
- Diagnosa :scraping (white: nodul putih dan hifa bersekat, black: hifa bersekat gelap) & culture
- Terapi :
 - pemotongan rambut yang terinfeksi
 - Topical antifungal



Cutaneous Mycosis

- Menginfeksi jaringan superfisial yang kaya Keratin yaitu kulit, rambut & kuku (Dermatomycosis / Dermatophytes)
- Tanpa penetrasi ke jaringan yang lebih dalam dan respon peradangan
- Agen penyebab disebut Dermatophytes, termasuk Deuteromycetes

Cutaneous
mycosis



Infeksi
dermatofit



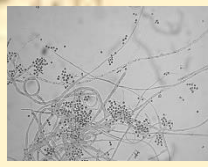
Tinea/Kurap



Microsporum



Trichophyton



Epidermophyton



Cutaneous Mycosis

- Dermatofit dikelompokkan : antropofilik (patogen kulit manusia), zoofilik (patogen kulit binatang), geofilik (berhubungan dengan tanah)
- Penyakit → Tinea / Ringworm
 - Tinea curis
 - Tinea capitis
 - Tinea pedis
 - Tinea corporis, dll

TABLE 86-4. CLINICAL CLASSIFICATION OF THE DERMATOPHYTOSES

Clinical Name	Site of Lesions	Organisms Most Frequently Isolated
Tinea capitis, epidemic	Scalp	<i>Trichophyton tonsurans</i> , <i>Microsporum audouinii</i> , (U.S.), <i>Trichophyton violaceum</i> , <i>Microsporum ferrugineum</i> (outside U.S.)
Tinea capitis, nonepidemic	Scalp	<i>Microsporum canis</i> , <i>Trichophyton verrucosum</i> , <i>Microsporum gypseum</i> (rare)
Tinea favosa (favus)	Scalp, torso	<i>Trichophyton schoenleinii</i> , <i>Trichophyton violaceum</i>
Tinea barbae	Beard	<i>Trichophyton rubrum</i> , <i>Trichophyton verrucosum</i>
Tinea corporis	Arms, legs, torso	<i>Trichophyton rubrum</i> , <i>Microsporum canis</i> , <i>Trichophyton mentagrophytes</i>
Tinea cruris	Genitocrural folds	<i>Trichophyton rubrum</i> , <i>Trichophyton mentagrophytes</i> , <i>Epidermophyton floccosum</i>
Tinea pedis and manus	Feet, hands	<i>Trichophyton rubrum</i> , <i>Trichophyton mentagrophytes</i>
Tinea unguium	Nails	<i>Trichophyton rubrum</i> , <i>Trichophyton mentagrophytes</i> , <i>E. floccosum</i>
Tinea imbricata	Torso	<i>Trichophyton concentricum</i>

Tinea pedis (Athlete's foot)

- Infeksi kronis pada daerah interdigital dan telapak kaki
- *Trichophyton rubrum* (60-80%)
 - Plantar, mocassin
 - Plantar small vesicles, may also affect distal subungual nail, other body sites
- *Trichophyton mentagrophytes* (10-20%),
 - Peri-plantar large vesicles, and may spread to white superficial nail
- *Epidermophyton floccosum* (3-10%)

Tinea pedis (Athlete's foot)

- Interdigital:
 - Pruritus, erythema, scaling, fissuring, maceration
- Plantar:
 - Moccasin: scaling, pruritus, erythema
 - Vesicobullous: pruritus, vesicles, scaling, erythema
- Combinations of interdigital and plantar

TINEA PEDIS (Athlete's foot)



Tinea Pedis Interdigitalis



Tinea Pedis Plantaris



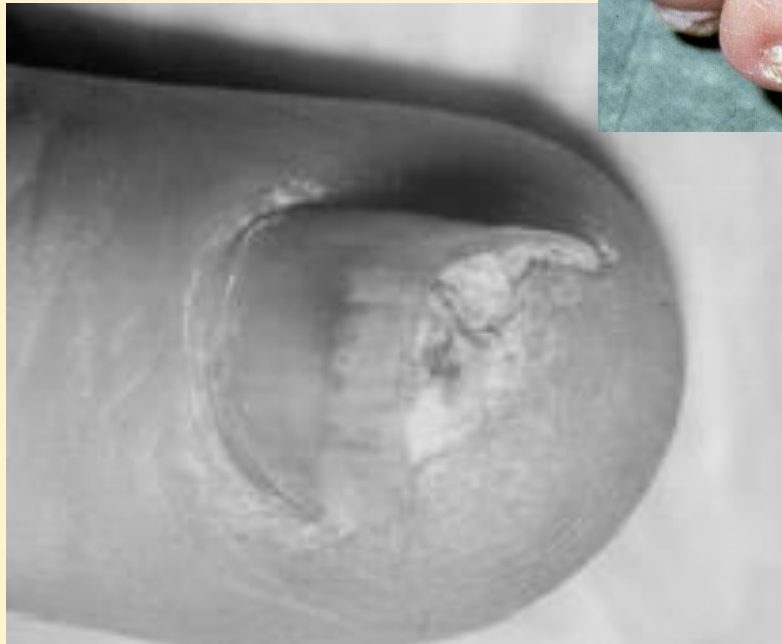
Predisposing Factors

- Closed communities: army barracks, boarding schools
- Public baths, swimming pools
- Local trauma on dermatophyte carrying individual
- Warm weather
- Exposure to hair of infected animals (rats in Vietnam)
- Familial predisposition

Tinea unguium/unguentum

- Infeksi jamur pada kuku = onychomycosis
 - *Trichophyton mentagrophytes*
 - *Trichophyton rubrum*
 - *Epidermophyton floccosum*
- Dimulai dari distal atau proksimal kuku
- Karakteristik : Subungual debris, kuku menjadi buram, pucat sampai kecoklatan & menebal, rapuh, ada sisa jaringan dibawah kuku

**Tinea unguium/
Tinea unguentum**



Tinea corporis, Tinea circinata

- Infeksi oleh jamur pada bagian tubuh
- Dapat merupakan hasil penyebaran infeksi dari kulit kepala, jenggot, selangkangan, dll.
- *Trichophyton mentagrophytes*
Trichophyton rubrum
Microsporum canis

Tinea corporis, Tinea circinata

- Lesi berbentuk annuler dengan tepi meninggi & berbatas jelas.
- Single, multiple atau merata
- Inflamasi ringan : bersisik, sedikit erythema
- Inflamasi berat : vesikula, pustula, erythema yang luas



Tinea capitis

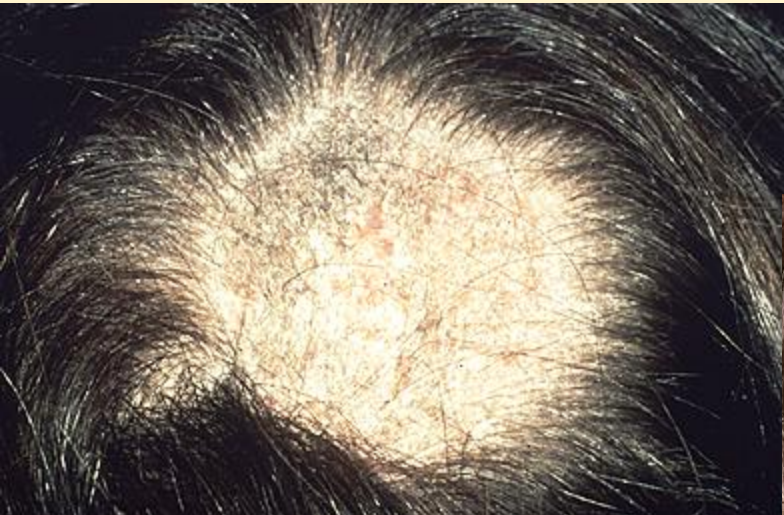
- Etiologic agent
 - *Trichophyton tonsurans* 90%
 - *Microsporum canis* 10%
- Transmission – direct contact.
- Ringworm pada kulit kepala & rambut
 - Hifa → kulit kepala → keratin pada folikel rambut
 - Rambut menjadi kusam keabuan, partial alopecia (circular), bersisik & gatal

Tinea capitis

- Diagnosa : scraping (hifa dan konidia khas untuk dermatofit)

FIGURE 6

Black-dot tinea capitis



Tinea capitis

Differential Diagnosis

- Alopecia areata.
- Atopic Dermatitis.
- Xerosis.
- Folliculitis.
- Seborrheic dermatitis.
- Psoriasis
- SLE



Tinea barbae, barber's itch

- Ringworm pada rambut jenggot (laki-laki)
 - *Trichophyton mentagrophytes*
 - *Trichophyton rubrum*
 - *Trichophyton violaceum*
 - *Microsporum canis*
- Inflamasi sangat berat,
- kadang mirip infeksi Piogenik.

Tinea barbae, barber's itch

Erythematous pada daerah muka & leher
Bersisik, rambut tidak bercahaya,
cenderung terjadi folliculitis



Tinea cruris, lock itch

- Dermathophytosis pada glabouris skin
 - *Trichophyton rubrum*, *Trichophyton mentagrouphytes*, *Epidermophyton floccosum*
- Etiologic agent *Epidermophyton floccosum* rash limited to groin or perineal area.
- *Trichophyton rubrum* patches spreading to the abdomen.
- Lesi pada kulit berbentuk anuler, agak meninggi ditengahnya bersisik berbatas jelas, erythema, panas, sakit.

Tinea cruris, lock itch

- Jamur tumbuh pada jaringan berkeratin yang mati, tetapi hasil metabolisme, enzim, antigen dapat berdifusi ke jaringan yang masih hidup epidermidis → erythema, terbentuknya vesikel & pruritis, lesi berkembang centrifugal
- Common in summer and tropical areas.



Tinea cruris,lock itch

Differential Diagnosis

- Contact dermatitis.
- Psoriasis.
- Seborrheic.



Subcutaneous Mycosis

- Jamur penyebab banyak terdapat di alam (tanah dan tanaman)
- Infeksi melalui trauma kulit atau jar. Subkutan (struktur kulit lebih dalam)
- Lesi umumnya granulomatous
- Menyebar sangat lambat, umumnya limfogen

Subcutan
mycosis

Sporotrichosis

Cromoblasto
mikosis

Misetoma

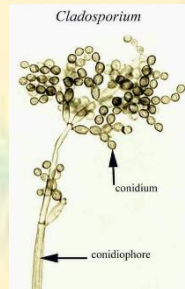
Phaeohipomitosis

*Sporothricosis
schenckii*

*Jamur tanah
Cladosporium
phialphora*

*Jamur tanah
saprofit*

*Jamur tanah
Cladophialophora*



Sporothricosis

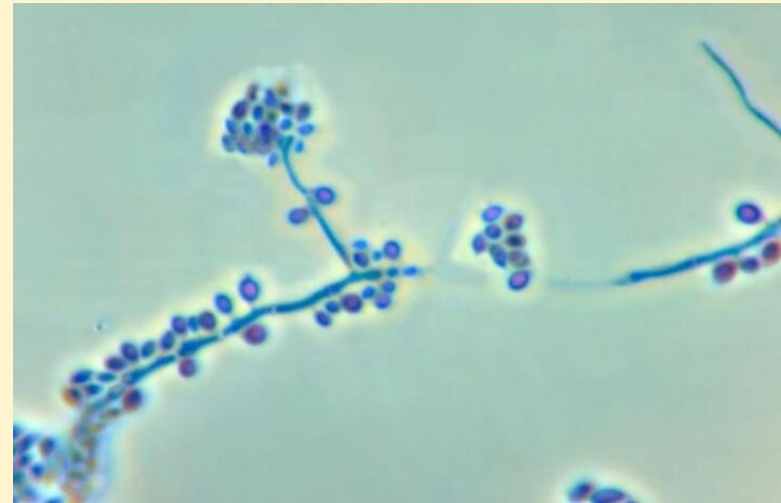
- Dimorphic fungi : *Sporothrix schenckii*
- Ditularkan dari tanah/tumbuhan busuk melalui luka tusuk (duri mawar, lumut kerak, bekas jerami)
- Gejala klinis : multiple subcutaneous nodules granulomatous dan abses → lesi ulceratis atau nekrotik disepanjang sal.limfa



Sporothricosis

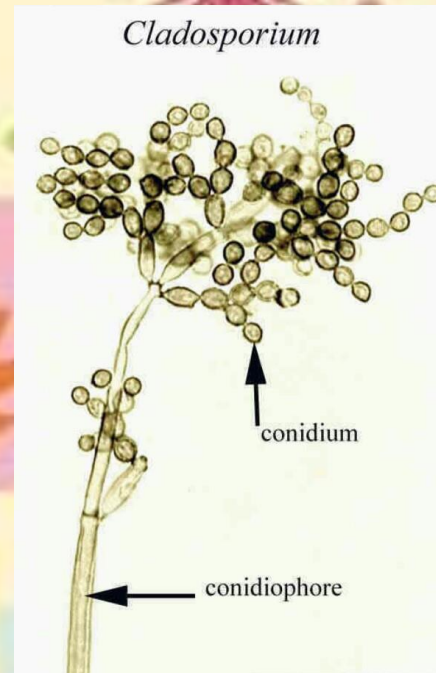
Diagnosa

- Biopsi jaringan eksudat
- Mikroskopik :
 - Prep KOH → yeast-budding (biakan pada suhu 25⁰C dan 37⁰C
 - Prep.Histologi → cigar shape
- Cultur
- Serologis : agglutinasi



Chromoblastomycosis

- (Chromomycosis, verrucous dermatitis)
- Jamur tanah
 - *phialophora verrucosa*
 - *Fonseceae pedrosoi*
 - *Rhizocladiella aquasperma*
 - *Cladosporium carrionii*
- Semua termasuk dematiaceous fungi
- Infeksi = traumatic inoculation
- Bersifat kronik, berkembang lambat



Chromoblastomycosis

- Morfologi :
 - Koloni kompak seperti beludru, berkerut, permukaan bawah berwarna coklat sampai hitam
 - Pada jaringan= spherical brown cells (4-12 um) disebut sclerotic bodies
 - Keropeng bagian luar & eksudat menjadi bentuk filamentus

Chromoblastomycosis

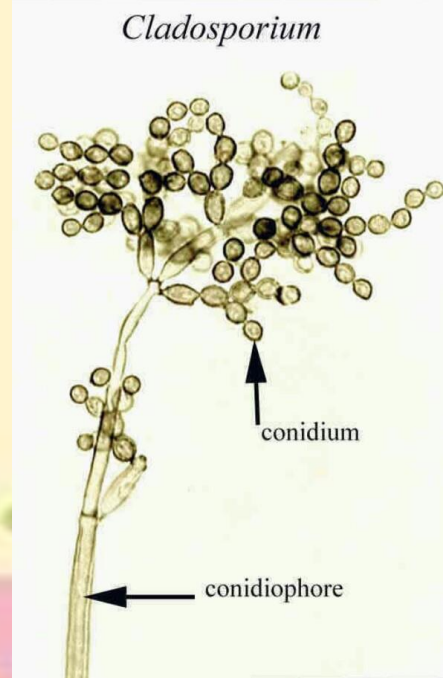
Gejala Klinis :

- Mengenai kaki dan tungkai pekerja yang bertelanjang kaki dan ada luka
- Lesi : verrucous & wart like, nodul granulomatous, krusta, absces menutupi daerah infeksi
- Ulcerasi atau black-dot dari hemopurulen pada permukaan lesi
- Berkembang secara limfogen /Elephantiasis = infeksi sekunder obstruksi, fibrosis sal, limfe

Chromoblastomycosis

Diagnosa :

- Spesimen : scraping atau biopsi lesi
- Mikroskopik
 - KOH : Schrelotic bodies (muriformis)
 - Prep. Histologi
- Kultur

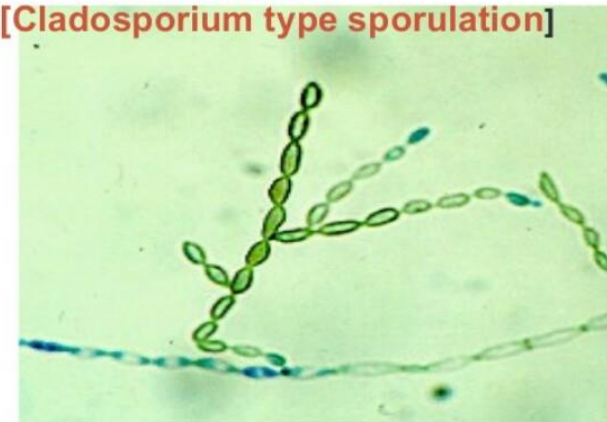


Phaeohyphomycosis

- Sistemik & Subcutaneus
- Menginfeksi baik orang sehat & immunocompromised
- Bentuk klinis :
 - kista subkutaneus
 - Sinusitis
 - absces pada otak
- Cerebral phaeohyphomycosis →
Xylohypha (Cladophialophora) bantiana



Cladophialophora
[Cladosporium type sporulation]



Mycetoma

- Merupakan infeksi Subcutaneus yang bersifat kronik
- Agen penyebab:
 1. Fungi → Maduromycosis (Madura foot)
 - *Pseudallescheria boydii*, *Madurella mycetomatis*
 - *Madurella grisea*, *Acremonium falciforme*
 2. Actinomycetes → Actinomycetoma
 - *Nocardia braziliensis*, *Streptomyces somaliensis*
 - *Actinomadura madurae*

Mycetoma

- Gejala :
 - Sering terjadi subcutaneus kaki & tangan
 - Supurasi
 - Absces
 - Lesi granulomatous : sinus-sinus yang berisi granula-granula (microcolonies)
 - Dapat menyebar ke tulang terdekat
 - Tidak diterapi → persisten → jamur lebih dalam → deformitas dan hilangnya fungsi organ

Mycetoma

Diagnosa :

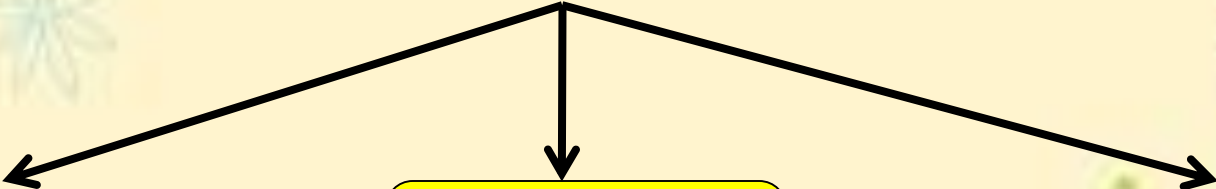
- Spesimen : pus atau biopsis
- Cultur
- Mikroskopis : pemeriksaan berdasarkan granula



Systemic Mycosis

- Agen penyebab = dimorphic fungus = virulenCoccidioidomycosis -
- Dapat menginfeksi organ sehat
- Infeksi serius pada immunocopromised people
- Umumnya tidak ditularkan dari orang ke orang
- Perinhalasi spora

Sistemic mycosis



Histoplasmosis

Blastomikosis

Coccidiomikosis



Histoplasma kapsulatu

Blastomyces dermatomyces

Coccidioides immitis



Coccidioidomycosis

- Normal berada di tanah
- Umumnya self limited
- Transmisi : inhalasi artrokonidia yang terpercik diudara
- Gejala :
 - 60% asimptomatik
 - 40% penyakit paru
 - influenza like → self limited, demam, batuk-batuk, arthralgia, sakit kepala 1-2 minggu
 - 5 % menyerang kulit, tulang dan SSP



Coccidioidomycosis

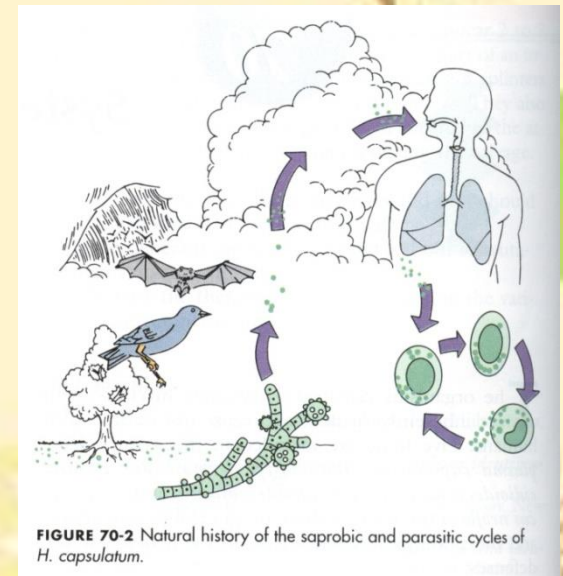
Diagnosis

- KOH : **sferula**
- Skin test
- Immunodiffusion : IgM
- Latex agglutination test
- Tube precipitation test
- CF test
- FA test



Histoplasmosis

- *Histoplasma capsulatum* var. *capsulatum*
- Temp. 22-29 °C
- Dimorphic
- Banyak di tanah yang terkontaminasi kelelawar, ayam, rabuk burung jalak
- Transmisi : inhalasi spora (mikrokonidia) yang terpecik di udara



Histoplasmosis

Gejala klinis

- Asymptomatic histoplasmosis (95%)
- Pulmonary histoplasmosis (acute pulmonary form , chronic pulmonary form) (5%)
- Disseminated form (immunocompromised host)

Histoplasmosis

Asymptomatic histoplasmosis

- positive skin test
- calcification
- endemic area

pulmonary histoplasmosis

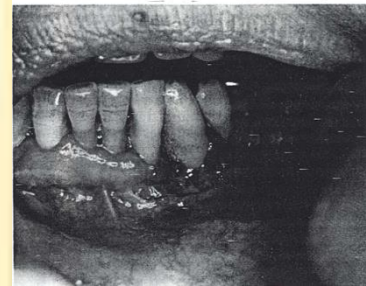
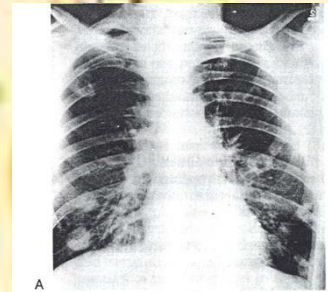
- Akut
- Self limited
- Influenza like illness
- Mediastinal fibrosis



Histoplasmosis

pulmonary histoplasmosis

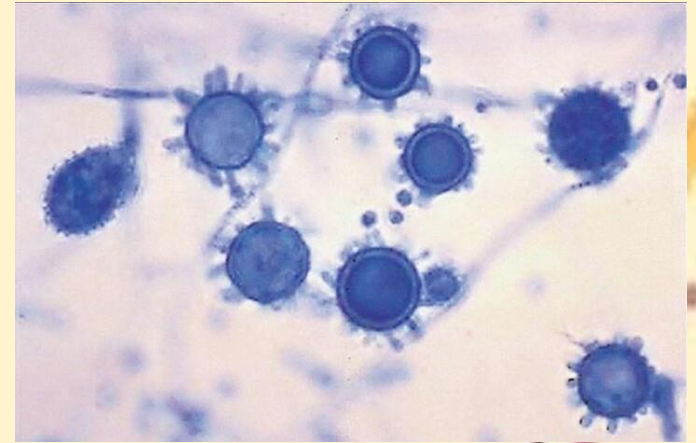
- Kronik
- Underlying chronic obstruction pulmonary disseminated form (immunocompromised)
- Severe
- progressive



Histoplasmosis

Diagnosis

- Mikroskopik
 - spesimen : dahak, jaringan
 - Giemsa : ragi dalam makrofag
- Skin test (histoplasmin antigen)
- Latex agglutination
- Immunodiffusion
- CF test
- Fluorescent antibody technique



Blastomycosis

- = Chicago disease, Gilchrist's disease, North American blastomycosis
- Inhalasi spora (konidia) *Blastomyces dermatitidis* yang terpercik di udara dari tanah yang tercemar
- Dimorphic
- Systemic atau disseminated disease → luka kulit dan tulang

Blastomycosis

- Gejala klinis :
 - Asymptomatic (50%)
 - Primary pulmonary infection
 - Paru nyeri dada, dahak dan demam
 - Radiology; non specific → infiltrat
 - kadang = histoplasma, calcifikasi
- Diagnosis :
 - Mikroskopik : dahak/eksudat KOH: sel ragi bertunas dengan dasar lebar
 - Culture



Opportunistic mycosis

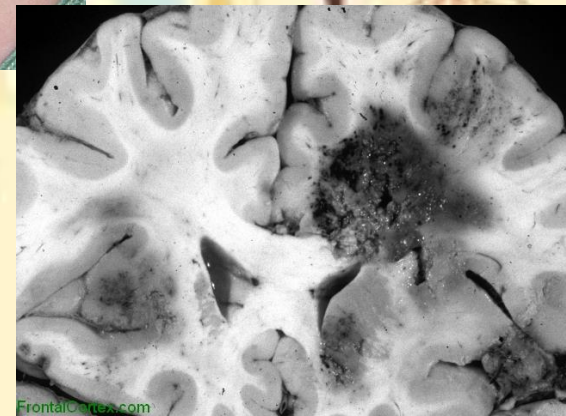
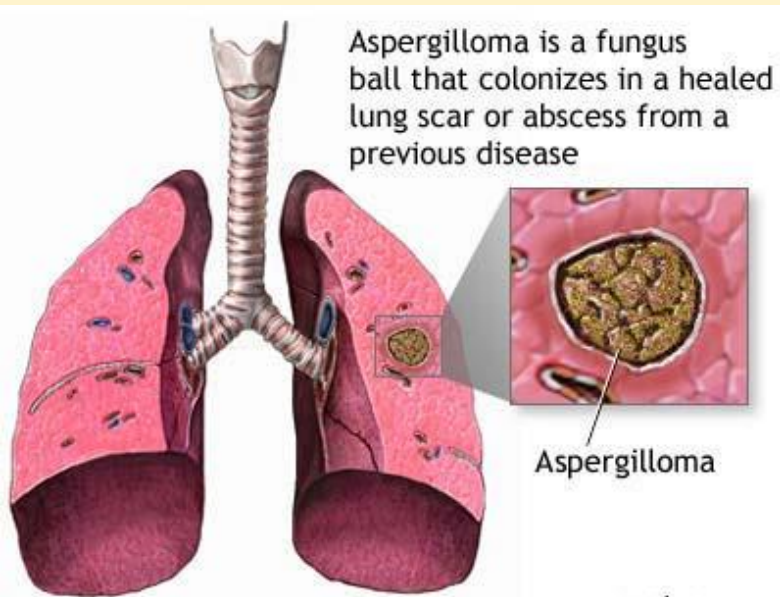
- Menyebabkan penyakit pada orang immunocompromise
- **Aspergillosis**
- **Candidiasis**
- **Cryptococcosis**

Aspergillosis

- Transmisi : inhalasi konidia di udara asal tanah
- Dapat menyebabkan infeksi nosokomial
- Manifestasi Klinik
 - Allergic Bronchopulmonary Aspergillosis : orang atopi, gejala asma, eosinophilia, IgE
 - Fungus Ball Aspergillosis : kolonisasi pada sinus paranasalis → cavitas paru akibat TBC → hemoptisis

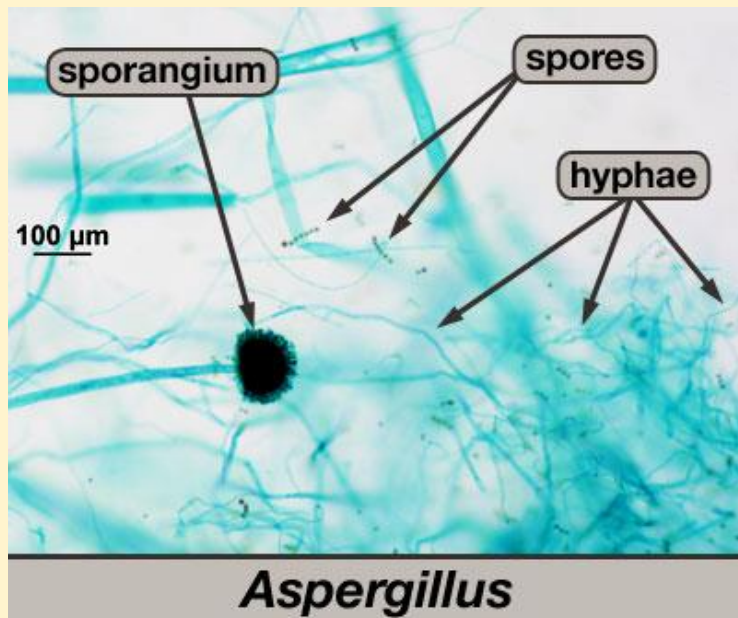
Aspergillosis

- Invasif Aspergillus :jarang terjadi, fatal, ke orbital, otak, jantung, liver dsb



Aspergillosis

- Diagnosis :
 - Mikroskopik : hifa bersepta
 - Enzym immunoassay : antigen *Aspergillus*



Candidiasis

- Agen= 90% *Candida albicans*
- Merupakan normal flora, membran mukosa (mulut, vagina), GIT
- Infeksi dapat bersifat akut atau kronis
- Berupa infeksi superfisial atau sistemik
- Immunocompromise : DM, Carcinoma, perawatan intensif (catheter, luka operasi, iv drug abuse, antibiotika), pregnancy (trimester 3), KB dll

Candidiasis

Cutaneous & mucosal candidiasis

- Oral thrush : pada lidah, bibir, gusi, palatum lesi berupa bercak pseudomembran/ menyebar berwarna putih
- Diaper rash (infant) : kulit terlihat lembab, macular erythemathous



Diaper rash may begin as intensely red patches beneath the diaper



Candidiasis

- Vulvovaginitis thrush : vaginal discharge putih seperti susu pecah, pruritus, panas, dyspareunia, vulva dan vagina erythema
- Candida onychomycosis : bengkak tidak bernanah, erythemathous, kuku tebal, mengeras, berlipat, tidak rapuh, tetap berkilat, tidak terdapat sisa jaringan dibawah kuku
- Systemic candidiasis



Candidiasis

- Chronic mucocutaneous : jarang terjadi, infeksi kulit dan selaput lendir berat :
kecacatan sel-T (defisiensi respon imun seluler,
gejala : infeksi superfisial pada beberapa area atau kulit



TABLE 87-5. CLINICAL CLASSIFICATION OF CANDIDIASIS (ABRIDGED)

Cutaneous and subcutaneous candidiasis

Thrush (oral, vaginal)

Stomatitis

Intertriginous candidiasis (groin, axillary, interdigital)

Onychomycosis

Esophagitis

Severe diaper rash

Balanitis

Systemic candidiasis

Esophagitis

Intestinitis

Infant diarrhea

Bronchopulmonary candidiasis

Pyelonephritis

Cystitis

Endocarditis

Myocarditis

Endophthalmitis

Meningitis

Arthritis

Osteomyelitis

Peritonitis

Macronodular skin lesions

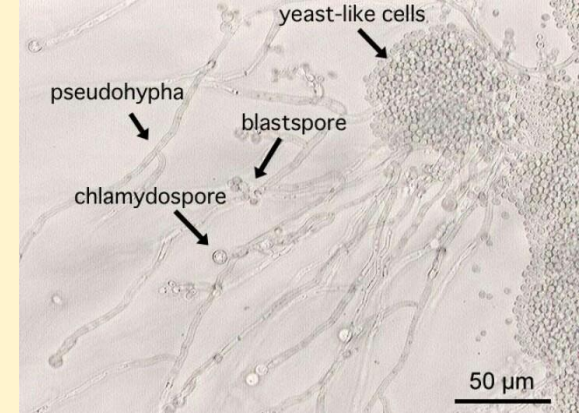
Chronic mucocutaneous candidiasis



Candidiasis

Diagnosis

- Mikroskopik : sel ragi bertunas (budding) dan pseudohifa (Dimorfik)
- Membedakan candida albicans dengan candida lain
 - a. Germinating tube test (serum 37°C)
 - b. Pada kondisi tertentu (tidak sesuai) dapat membentuk clamydospores

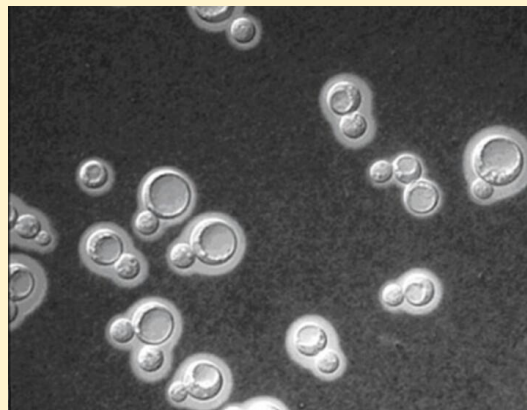


Cryptococcus

- Agen : *Cryptococcus neoformans*
 - Transmisi : inhalasi sel ragi di tanah yang tercemar kotoran burung merpati
 - Gejala : paru (hematogen) ke otak - meningitis pada pasien AIDS/ kekebalan menurun, pneumonia ringan atau tanpa gejala
- penyakit menyebar : kulit dan tulang

Cryptococcus

- Diagnosis
 - Antigen polisakarida kriptococcus
 - Lateks aglutinasi
 - Mikroskopis : india ink – ragi berkapsul – sel yang dikelilingi daerah yang jernih (halo)



Terima kasih

The background is a light cream color decorated with various autumn-themed elements. There are several stylized leaves in shades of orange, yellow, and brown. Interspersed among the leaves are colorful geometric shapes, including squares and rectangles in light blue, pink, and green. Some of these shapes contain white or light-colored floral or starburst patterns. On the right side of the image, there is a thin, dark brown vertical line representing a tree trunk, with several small, stylized branches extending from it. Some of these branches have small, round buds or leaves. The overall aesthetic is soft and celebratory.