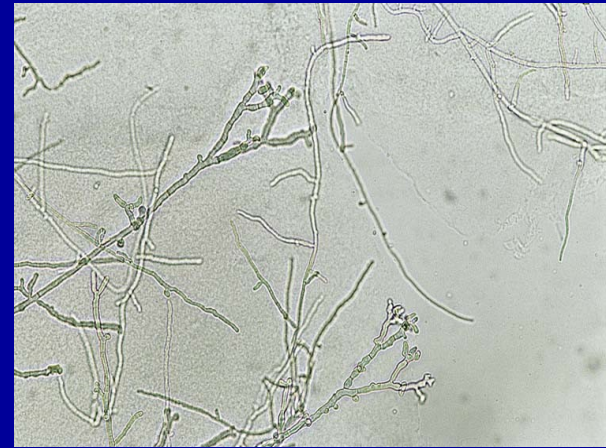


Superficial Cutaneous Fungal Infections

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Superficial Fungal Infections

- Dermatophytic (Commonly known as Ringworm)



- Pityriasis Versicolor



- Candidiasis



Transmission

- Direct contact with patients & pets
- Indirect contact
- Trauma, maceration & occlusive conditions predispose

Dermatophytic Infections (Ring Worm)

- Etiology
 - Three Genera of dermatophytes
 - Trichophyton
 - Microsporum
 - Epidermophyton



Pathogenesis



- Dermatophytes live only on superficial dead keratin
- Cause inflammation By
 - Permeation of metabolic products of Fungus
 - Delayed Hypersensitivity

Typical Lesion of Tinea (Ring Worm)

- Annular or Ring-like plaque
- Spreads centrifugally



Typical Lesion of Tinea (Ring Worm)

Edge

- Red, raised showing papulo-vesiculation, pustulation and scaling

• Centre

- Usually relatively clear
- May show nodules, hyperpigmentation and thickening



Ringworm Vs Psoriasis



Modification depends upon

- **Site of Infection**
- **Strain of Fungus**

Tinea Capitis (Tinea of Scalp)

- Age
 - Invariably a disease of childhood
- Morphology
 - Non-inflammatory
 - Patches of partial hair loss
 - Scaling and sometimes black dots
 - Hair lusterless, can be easily plucked
- Symptoms: Itching



Tinea Capitis (Tinea of Scalp)



Tinea Capitis (Tinea of Scalp)







Tinea Vs Alopecia Areata



Tinea Capitis

- Inflammatory
 - Patchy hair loss
 - Pustules, crusting, scaling
 - Abscess-like boggy swellings
 - Itchy, painful
 - Cervical lymphadenopathy



14 10:34PM

Tinea Facieie (Ringworm of Face)

- Typical Ring-like lesions
- Diffuse red scaling patches
- Boil-like lesions if hair follicles affected
- Symtoms
 - Itching
 - Photosensitivity











Pityriasis
Alba Vs
Tinea
Faciei



Tinea Corporis (Ringworm of Trunk & Limbs)

- Symptoms
 - Itching & Burning
- Morphology
 - Of Typical lesion





21 12:32AM







16 3:06AM



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Tinea Cruris(Ringworm of Groin)



- Very common condition
- Mainly in summer & rainy seasons
- Affects more men than women
- Sites
 - Groin, Thighs & Scrotum (Often bilateral)
- Symptoms
 - Severe itching & burning
- Morphology Of Typical lesion









5 3:45AM

Tinea Pedis (Ringworm of Feet)

- Predisposing Factors
 - Occlusive Footwear
 - Excessive Sweating of feet
 - Sharing of wash places
 - Presence of fungal infection of nails



Tinea pedis (Morphology)

- Interdigital scaling, maceration, & erosions mainly affecting lateral two interdigital spaces







Tinea Unguium (Tinea of Nails)

- Usually affects few nails and is asymmetrical
- Usually associated with fungal infection of Feet/Groin/hand







Tinea Unguium

- Separation of nail plate from bed





Tinea Incognito (Tinea modified by steroids)

- Common Presentation
- Due to use of Topical steroids
- Initially symptoms & signs improve
- Well-demarcated border is lost
- Atypical lesions are formed



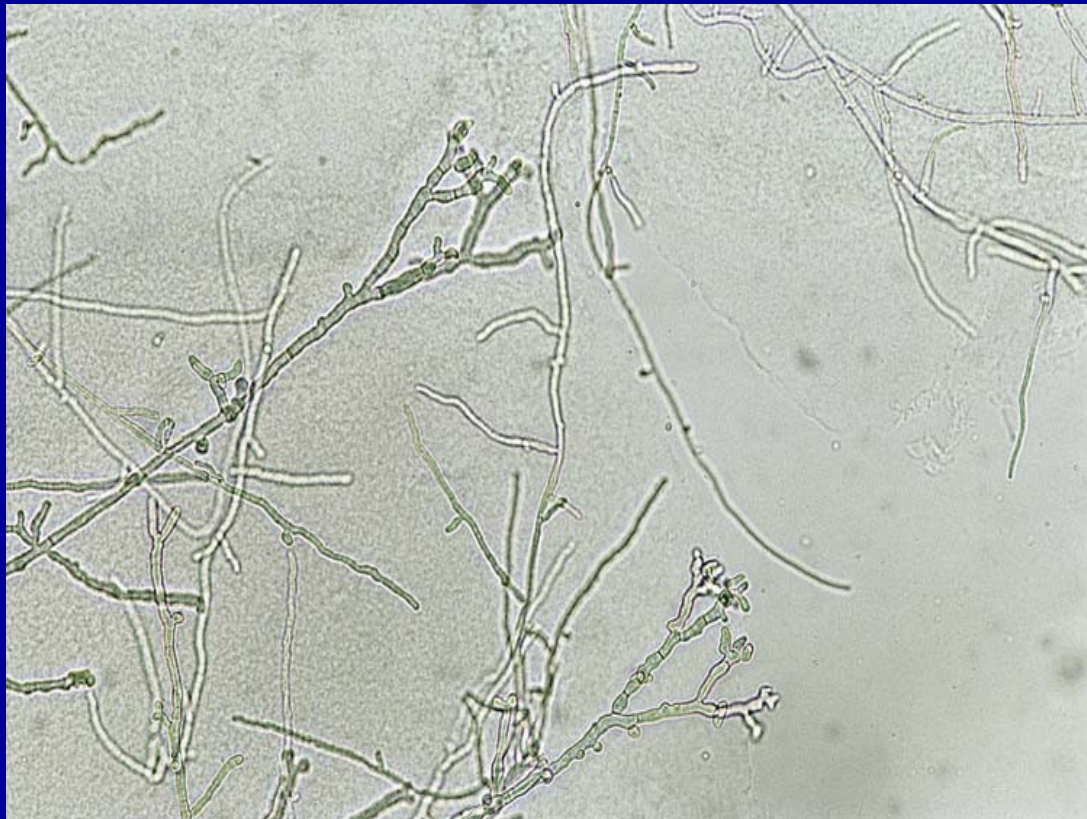


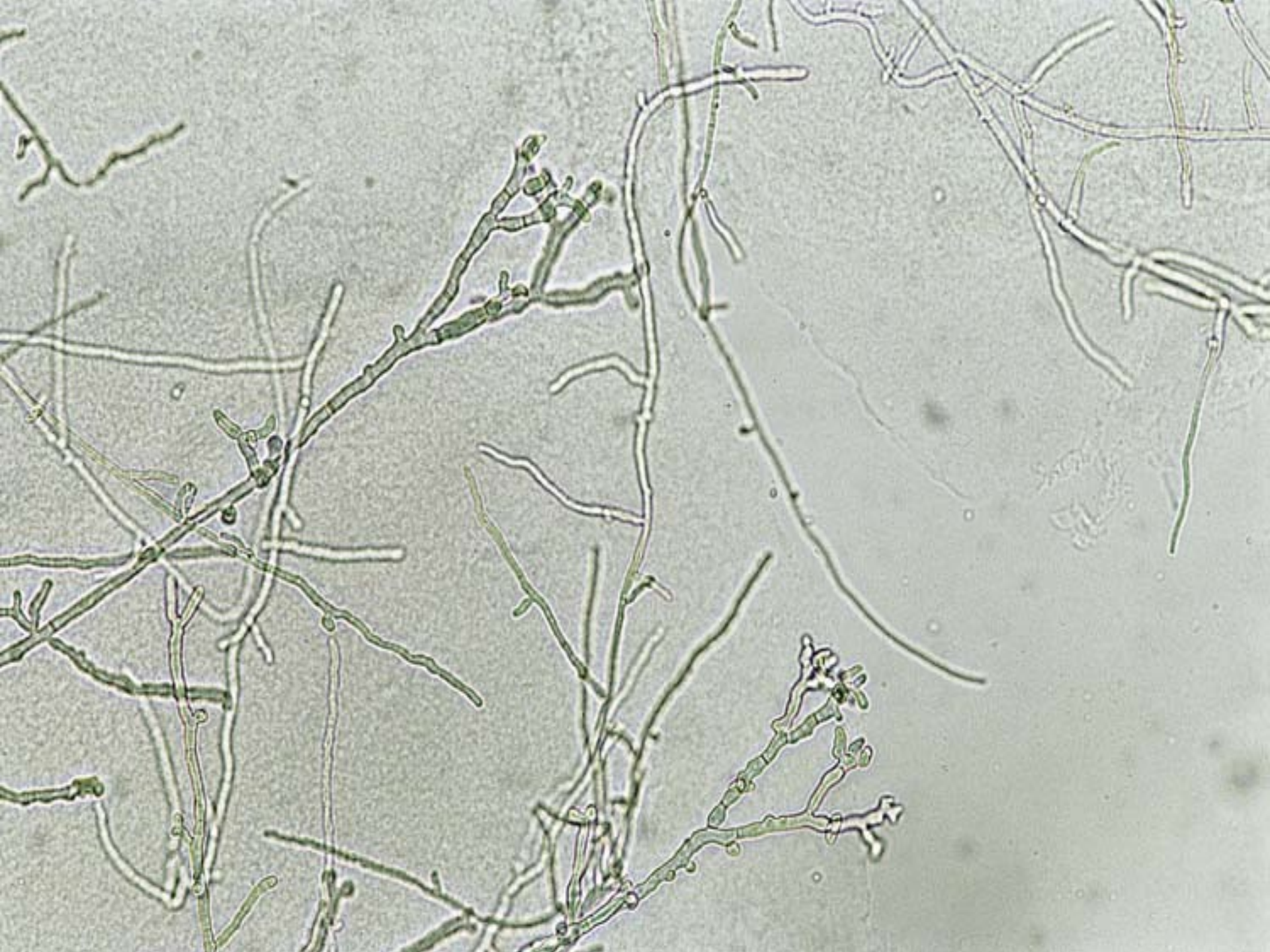


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Investigations

- Microscopy (KOH-Potassium hydroxide) of scales reveals branching Hyphae





Investigations

- Fungal Culture



MANAGEMENT

- General Measures
 - Keep area dry
 - Adequate ventilation
 - Avoid occlusive garments & shoes
 - Avoid sharing of Towels & Combs
 - Treat all the contacts
 - Avoid wet work like dish washing etc.

Treatment

Systemic Therapy

- Extensive infection
- Tinea Unguium
- Tinea Capitis
- Tinea badly managed with steroids

Topical Agents

- Imidazole derivatives
 - Miconazole, clotrimazole, ketoconazole, Econazole
- Allylamines
 - Terbinafine

Systemic Therapy

- Terbinafine
 - *Fungicidal*, so response is rapid
 - Relapses are less frequent
 - Effective mainly against dermatophytes

Systemic Therapy

- **Terbinafine (Dosage)**
 - 250 mg daily (Adult Dose)
 - 02 weeks for tinea corporis, tinea facieie,
 - 04 weeks for tinea pedis & tinea manum
 - 06 weeks for fingernails
 - 12 weeks for toenails

Systemic Therapy

- Itraconazole

- Broad spectrum effective against

- dermatophytic infections, pityriasis*

- versicolor and candidiasis*

Systemic Therapy

- Itraconazole (dose)
 - 200 mg /day for 01-02 weeks for tinea corporis, tinea facieie,
 - 400mg per day for 01 week pulse every 04 weeks for 01 month (tinea pedis) 02 months (fingernails) 03 months (Toenails)

Systemic Therapy

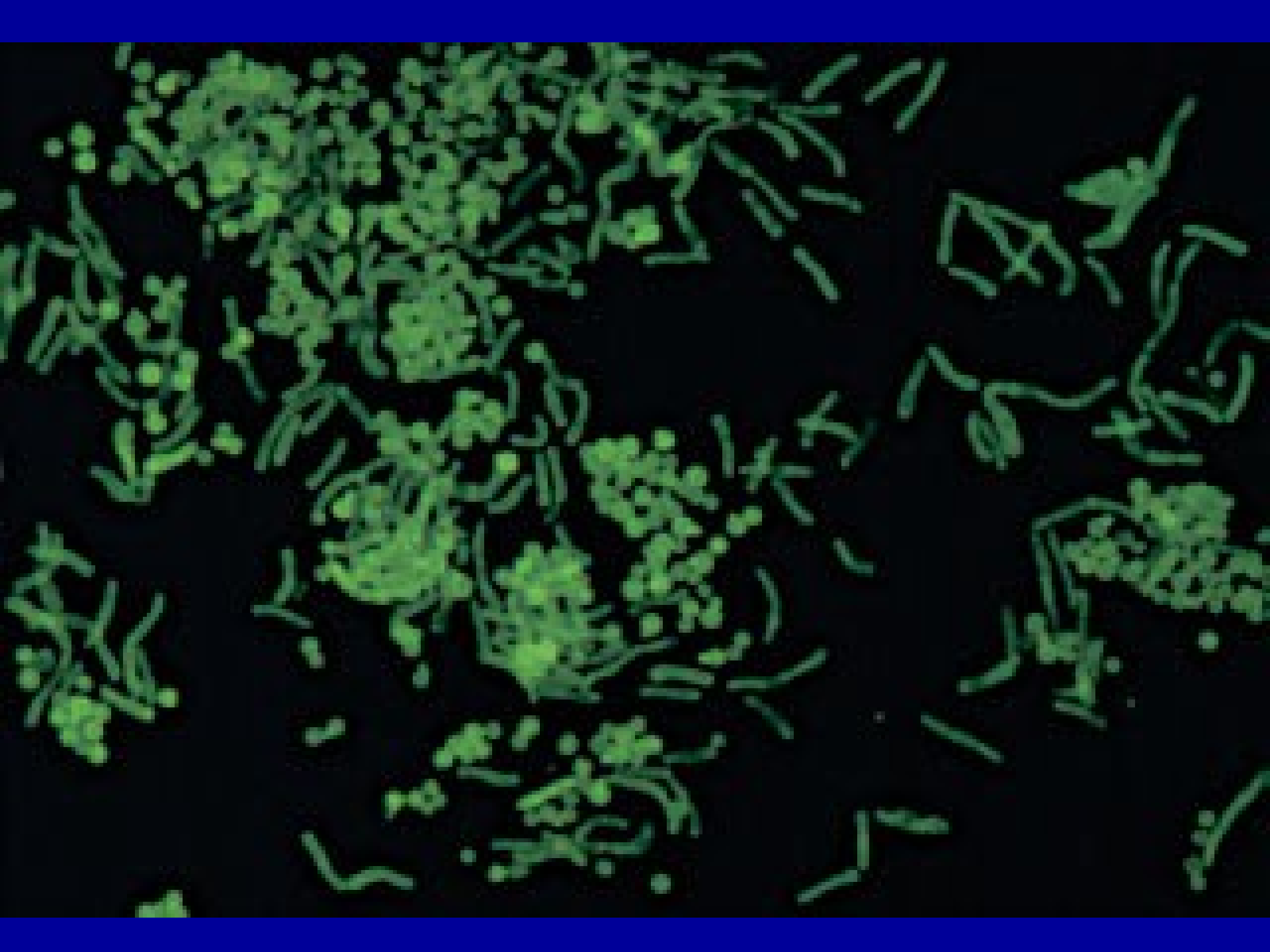
- Griseofulvin
 - Fungistatic against dermatophytes.
 - *Ineffective against pityriasis versicolor, candidiasis*

Systemic Therapy

- Griseofulvin
 - Dose: **10mg/kg/day** after fatty meal
 - Duration: **02-03** months except onychomycosis (*01-02 years*)

Pityriasis versicolor

- Etiology
 - *Malassezia furfur* (pityrosporum ovale) is a commensal yeast
- Pathogenesis
 - Shift in the relationship between the host & the yeast
 - Yeast overgrows in hot & humid conditions



Pityriasis versicolor

- Symptoms
 - Asymptomatic, itching & burning
- Morphology
 - Hypopigmented (May be hyperpigmented or erythematous) scaly lesions over upper trunk & neck mainly



22 12:29AM

D/D

- Vitiligo
 - Depigmented lesions
 - No scaling



Treatment

- Topical Therapy
 - Imidazoles
 - Ketoconazole 2%, clotrimazole 1%
 - Selenium sulphide 2.5%

Treatment

- Systemic Therapy

- Ketoconazole 200mg daily for 07 days

- Itraconazole 200mg daily for 07 days

- Fluconazole 300mg single dose

- ***Terbinafine & Griseofulvin Ineffective***

Candidal Skin Infections

- Etiology
 - Candida albicans-A commensal
 - The commensal becomes **pathogenic**
in various predisposing conditions:



Candidal Skin Infections

- Predisposing Conditions
 - Moisture
 - Obesity
 - Diabetes
 - Antibiotic use
 - Immunocompromised states
 - Pregnancy

Clinical Features

- Oral Thrush
 - White adherent lesions on red base on buccal mucosa, tongue & palate







- A Patient presents to you with
 - Itching
 - Macerated red lesions involving infra-mammary folds
- What is likely diagnosis



Flexural Candidiasis

- Moist red macerated lesions involving depth of folds with satellite lesions
- Any skin fold like inframammary area, axillae, finger webs, Groin etc

Genital candidiasis

- Vulvovaginal
 - Severe itching & white curdy vaginal discharge
- Candidiasis involving male genitalia
 - Superficial red raw areas (erosions)
 - Redness & burning after intercourse



Treatment

Systemic Therapy

- Fluconazole
 - 50-200mg /day for 02 weeks in severe oral candidiasis
 - 150mg single dose in vaginal candidiasis
- Itraconazole
 - 200mg /day for 01-02 weeks

Common Pitfalls In management

- Wrong Diagnosis
- Wrong Choice of Therapy
- Inadequate Dose
- Inadequate duration
- Inadequate counselling to patient