

Viral skin infections(Herpes Simplex  
& H. Zoster Viruses).

Fungal Skin Infections(Tenia,  
Candida).

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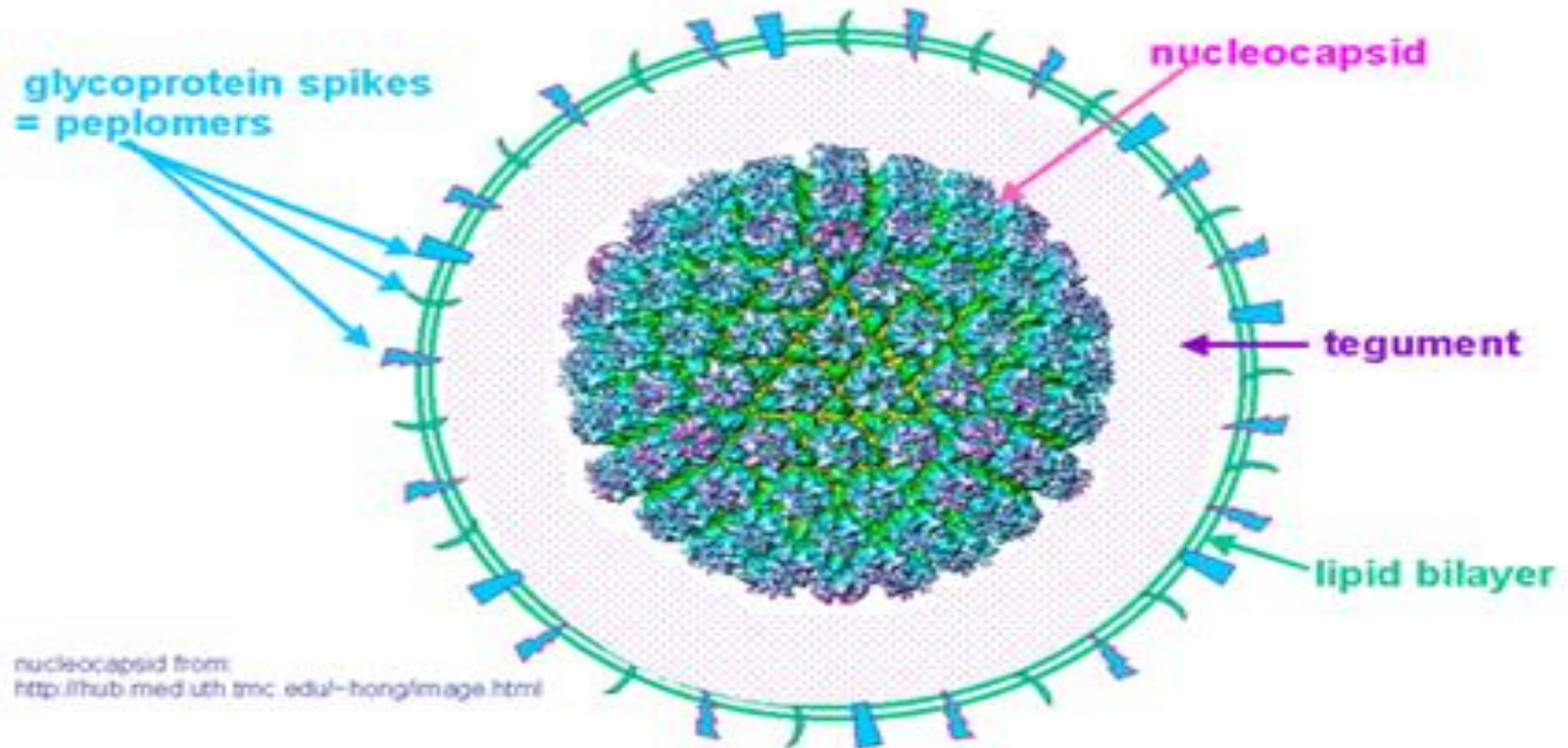
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# Herpesviridae.

- A large family of DNA viruses that causes infections and certain diseases in humans and animals.
- The family name is derived from the Greek word *herpein* ("to creep"), referring to spreading cutaneous (skin) lesions, usually involving blisters, seen in flares of herpes simplex 1, herpes simplex 2 and herpes zoster (shingles).

# Morphology of Herpes Virus.

## HERPESVIRUSES



# HSV-1(Labialis Herpes Virus).

- Around 65 percent of all people aged 14-49 years are infected with HSV-1, making it one of the most common viral infections in the world.
- Can affect mouth and lips ([oral herpes](#)).
- Many people with HSV-1 are asymptomatic, means its transmission is very common.
- Like other forms of herpes virus, HSV-1 spreads through direct contact.

# HSV-2(Genitalis Herpes Virus).

- It is highly contagious and spreads through direct contact, causing genital herpes.
- About 11 % of people aged 14 to 49 years are infected with HSV-2, although many never experience any symptoms.
- It typically spreads through sexual intercourse and tends to affect women more than men.

# Herpes Labialis.



# Herpes Labialis.



# Herpes Genitalis.



Figure 3. Initial genital herpes infection in children. Sexual



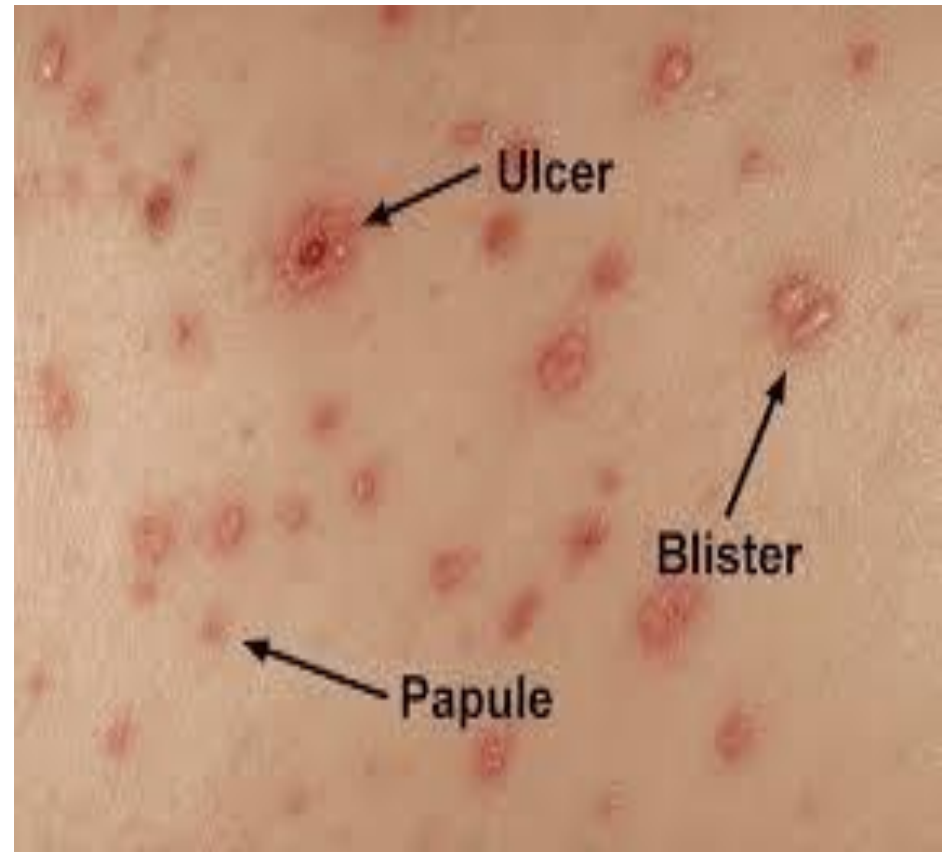
# Herpes Genitalis.



# HSV-3(Varicella Zoster).

- Human herpes virus 3, or HSV-3, causes chickenpox and shingles or herpes zoster.
- An extremely common virus that typically occurs during childhood as chickenpox and typically causes painful, unpleasant skin lesions that can affect entire body.

# Chicken pox..



# Herpes zoster.



Shingles



# Herpes ophthalmicus.



# Fungal Skin Infections.

- Tinea.
- Candida.

# Tinea.

- A Latin word meaning “worm” .
- Parasitic superficial fungal infectious disease of skin and its appendages.
- In its manifestations of skin it shows ring like skin eruption with itching and burning sensation thus it is called “Ring Worm.”

# Dermatophytes.

- Name based on the Greek for 'skin plants', a common label for a group of three types of fungus (Trichophyton, Microsporum and Epidermophyton) commonly causes skin, nail and hair diseases in animals and humans.



# Dermatophytosis.

- Defined as “fungal infection of the keratinized tissue of the hair, nail and stratum corneum of the skin”.

# Causes.

- TRICHOPHYTON-: T. Rubrum.
- MICROSPORUM-: M. Canis.
- EPIDERMOPHYTON-: E. Floccosum.

# Classification of Tinea depending on site of infection.

- Tinea capitis,
- Tinea corporis,
- Tinea cruris,
- Tinea pedis-Trichophyton interdigitale,
- Tinea manuum,
- Tinea unguium,
- Tinea faciei,
- Tinea barbae,
- Tinea incognito.

# Tinea Capitis.

- The most common dermatophytosis in children, is an infection of the scalp and hair shafts.
- Transmission is fostered by poor hygiene and overcrowding, and can occur through contaminated hats, brushes, pillowcases and other inanimate objects.
- After being shed, affected hairs can harbor viable organisms for more than one year.

# T.Capitis.



# Kerion.

- Tinea scalp infection also may result in a cell-mediated immune response termed as “kerion,” which is a boggy, sterile, inflammatory scalp mass.
- Cervical and occipital lymphadenopathy may be prominent.

# Kerion.



# Pathogenesis.

- From the site of inoculation, the fungus grows down into the stratum corneum, where it invades keratin.
- Dermatophytes are unique in that they produce keratinase, which enables them to use keratin as a nutrient source.
- Infected hair become brittle, and after three weeks, the clinical presentation of broken hair is evident.



# Tinea pedis.

- Tinea pedis, or athlete's foot, has three common presentations.
- The interdigital form of tinea pedis is most common.
- It is characterized by fissuring, maceration, and scaling in the interdigital spaces of the fourth and fifth toes.
- Patients with this infection complain of itching or burning.

# Pathogenesis.

- T.P. usually caused by *Trichophyton rubrum*, in which the plantar skin becomes chronically scaly and thickened, with hyperkeratosis and erythema of the soles, heels and sides of the feet.
- The vesiculobullous form of tinea pedis is characterized by the development of vesicles, pustules, and sometimes bullae in an inflammatory pattern, usually on the soles.

T.Pedis.



# Tinea manum.

- A fungal infection of one or, occasionally, both hands.
- It often occurs in patients with tinea pedis.
- The palmar surface is diffusely dry and hyperkeratotic.
- When the fingernails are involved, vesicles and scanty scaling may be present and the condition resembles dyshidrotic eczema.

# T. Manum.



# Tinea cruris.

- Frequently called “jock itch,” is a dermatophyte infection of the groin.
- This dermatophytosis is more common in men than in women and is frequently associated with tinea pedis.
- Tinea cruris occurs when ambient temperature and humidity are high.
- Occlusion from wet or tight-fit clothing provides an optimal environment for infection.

# Contd..

- Tinea cruris affects the proximal medial thighs and may extend to the buttocks and abdomen.
- The scrotum tends to be spared.
- Patients with this dermatophytosis frequently complain of burning and itching..
- Pustules and vesicles at the active edge of the infected area, along with maceration, are present on a background of red, scaling lesions with raised borders.

# T. Cruris.





# Tinea facialis.

- Tends to occur in the non- bearded area of the face.
- Patient may complain of itching and burning, which becomes worse after sunlight exposure.
- Some round or annular red patches are present.
- Often red areas may be indistinct, especially on darkly pigmented skin, and lesions may have little or no scaling or raised edges.
- Because of the subtle appearance, this dermatophytosis is sometimes known as “tinea incognito.

# T. Facialis.



# Tinea corporis.

- Typically appears as single or multiple, annular, scaly lesions with central clearing, a slightly elevated, reddened edge, and sharp margination (abrupt transition from abnormal to normal skin) on the trunk, extremities or face.
- The border of the lesion may contain pustules or follicular papules.
- Itching is variable.

# T. Corporis.



# Tinea unguium.

- A dermatophyte infection of the nail, is a subset of onychomycosis, which also may be caused by yeast and non-dermatophyte molds.
- Risk factors for this infection include aging, diabetes, poorly fitting shoes and the presence of tinea pedis.

# Tinea unguium.



# Tinea barbae.

- It involves skin and coarse hair of the beard and mustaches area.
- It occurs in adult men and hirsuted women.
- Because the usual cause is a zoophilic organism, farm workers are most often affected.
- It may cause scaling, follicular pustules and erythema.

T. Barbae.





Candida.

# Cutaneous Candidiasis.

- Areas of the skin where there is very less ventilation and are wet, develop infection of the skin.
- Most commonly it includes the area of wearing diaper, hands on which rubber gloves are regularly being worn, base skin of finger nail, area surrounding groin and cleavage of huge breasts.
- Moist red patches are formed on the skin.

# Classification of candida.

➤ There are many species of Candida (>150)

➤ The common species are:

Candida Albicans ( Most abundant and common),

C. Parapsilosis

C. Tropicalis,

C. Glabrata,

C. Krusei,

# Human commensal.

- Oral cavity,
- Skin,
- Gastrointestinal tract,
- Genitourinary tracts.

# Classification of cutaneous candidial infections.

- Paronychia (Inflamed skin around nail bed),
- Onychomycosis (nails),
- Diaper rash,
- Chronic mucocutaneous candidiasis.

# Paronychia.

- An inflammation of the skin around the nail, which can occur suddenly, when it is usually due to the bacteria *Staph. aureus*, or gradually when it is commonly caused by *candida albicans*.
- The term is from Greek: *παρωνυχία* from *para*, "around", *onyx*, "nail" and the abstract noun suffix *-ia*.
- **Types:** Acute and chronic



# Onychomycosis (Nail Infection).

- Also categorized under cutaneous candidiasis.
- Characterized by red swelling around the nails, destruction of nail tissue, and loss of nail.
- Occurs more often in toenails than fingernails because toenails are often confined to warm and moist environments.



# Onychomycosis (nail infection).





**Onychomycosis, toenails.** Note the thinning and friable nature of the nails.



**Candidiasis, toenails.** Marked thickening and discoloration, along with deformity of the toenail, are commonly seen in this condition.

# Diaper Rash.

- A common form of inflamed skin (dermatitis) that appears as a patchwork of bright red skin on baby's bottom.
- It is often related to wet or infrequently changed diapers, skin sensitivity and chafing.

# Diaper Rash.



# Chronic Mucocutaneous Candidiasis.

- An immune disorder of T-cells.
- It is characterized by chronic infections with candida that are limited to mucosal surfaces, skin and nails.
- It can also be associated with other types of infections, such as human papilloma virus.
- An association with chromosome 2 has been identified.

# Chronic Mucocutaneous Candidiasis.

