

Team Medicine

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**Herpes Viral
Infections**

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Herpes Simplex Virus:

very common infections

- HSV1
- HSV2
- VZV (Varicella zoster virus)
- CMV (cytomegalovirus)
- EBV (Ebstein-bar virus)

Characteristic: all DNA viruses, encapsulated and have LATENCY phase after initial infection (don't go away from the body but remain dormant -> recurrent infections)
they require close contact (droplets or sexual contact) **except VZV**
only affect humans
in general all viruses multiply intracellularly
herpes usually in mucous membrane (squamous cells of dermis/epidermis)
—>viremia—> sympathetic nerves and HSV1 usually affects trigeminal nerve while HSV2 go to sacral route

HSV1: non-genital infection

cold sores (herpes labialis)
finger (whitlow)
primary stomatitis (children below 5 years)
occasionally may cause genital

Presentation: high fever, cervical lymph nodes enlargement and pain
gingivostomatitis and pharyngitis

lesions may also go to upper part of airway and cause complications (as saliva goes down and spreads infection)

scattered lesion on the skin may be seen because children frequently touch their mouth
herpeslabialisreccur during stress lasting few days to 1 week ****most frequent manifestation****
inimmunocomprised it may be very severe with oral cavity ulceration

HSV2: mainly genital but can cause any of the above symptoms depending on sexual activity

NEONATAL infection (during vaginal delivery)

genital herpes cause multiple painful lesions on the genitals and may cause vaginal discharge, dysuria and even urinary retention **if urethra is involved**

lesions around the anus may be seen
recurrent infection are usually more mild

tender inguinal lymph nodes

complication: meningitis

Diagnosis: typical clinical presentation is usually enough for diagnosis

if not clear you may need to investigate:

PCR by swab, scrapping or CSF (if meningitis)

Giemsa stain for herpes detection may be used

viralculutre(not done anymore and needs 3-5 days to grow)

Treatment:

Primary infection need to be treated because they are usually very severe

Treatment shortens the duration making it heal faster

Treatment is usually 5 days

herpeslabilais doesn't need treatmentand may use acylcovir topically but no proven efficacy

genital herpes need to be treated because it causes viremia (acylclovir, famciclovir, valaciclovir)

VSV: - chickenpox

- herpes zoster (shingles) if it recurs

the only virus that is airborne (respiratory route) and highly contagious

IP: 1-3 weeks

replicates in respiratory tract -> viremia (fever and prodromal symptoms) -> rash appears after 24-48hrs -> latency in dorsal ganglia; that's why the recurrent shingles follows a dermatomal distribution (won't cross the midline)

risk of recurrence is growing with age (>70yrs)

Diagnosis: clinically (patients are less than 13 yrs of age usually)

- rash mainly on trunk

The rash has several stages: starts as small erythematous rash, then raised erythematous (papule) then raised with yellowish head (pustule) then it dries out.

- In adults or immunocompromised -> pneumonia and is very severe

Hepres Zoster follows a certain dermatome: doesn't cross midline and the severity varies from one person to another



Symptoms usually start with **PAIN** described as electrical or burning pain

the pain may even be on the front but the lesion is on the back (examine for rash)

it may start as small rash then progress

if diagnosed early, treatment will prevent complication (like secondary infection which is usually bacterial)

ophthalmic zoster is very dangerous: affects the eye so treat as early as possible



Treatment: acyclovir, valacyclovir, famciclovir

even recurrent infectious should be treated

Vaccination:

VZV vaccination

for all healthcare provider if they are not immune

VZV Immunoglobulin (post exposure)

CMI: very large DNA virus

the latency is **NOT** in nerves but in reticuloendothelial system (lymph nodes, spleen)
may be re-activated in AIDS patients or immunocompromised

Presentation: asymptomatic

mild non-specific symptoms (flu-like, lymph node enlargement)
may present with fever with mild liver enzyme elevation
may also cause infectious mononucleosis (like EBV)
causes infections in immuno-compromised like pneumonia/ retinitis
if infection in first trimester of pregnancy -> congenital infection

Diagnosis: always by laboratory NOT CLINICAL

PCR

antigen detection by serology

viral culture

Treatment: ganciclovir

foscarnet

cidofovir

Dont treat in healthy people just immunocompromised

EBV: infectious mononucleosis (kissing disease from saliva exchange)

fever, sore throat, cervical lymphadenopathy, pharyngitis

Asymptomatic (most common)

Infections in immunocompromised (like hairy leukoplakia in AIDS patients)

high association with African Burkitt's lymphoma, and nasopharyngeal carcinoma.

spread by intimate contact

*difficult to differentiate between acute tonsillitis

Diagnosis: - **CBC + blood film:** to differentiate (tonsillitis or mononucleosis)

if bacterial high neutrophil count if EBV atypical lymphocytes are seen

- serology: **monospot test (very quick and very helpful)**

transient appearance of heterophile antibodies

if this was negative but high clinical suspicion, check for EBV specific antibodies

Treatment: no specific treatment just supportive therapy

lymph nodes may be so enlarged that it may cause airway obstruction -> steroids to reduce inflammation

If the patient has EBV infectious mononucleosis but the physician suspected tonsillitis and gave antibiotic <ampicillin or amoxicillin> , the patient will develop rash !!**HIGHLY suggestive of mono****