

Genito-Urinary System

Herpes, HPV

HERPES SIMPLEX VIRUS

■ HSV-1 and HSV-2

- differences in glycoprotein gB enable them to be distinguished
- HSV-1 has gB1
- HSV-2 has gB2.



HERPES SIMPLEX DISEASE

■ HSV

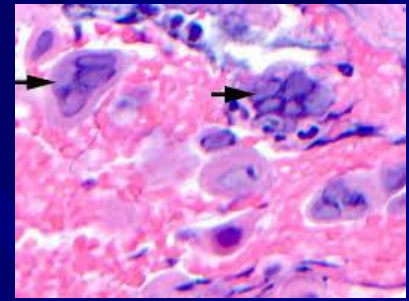
- recurrent ulcers in areas of the skin and mucous membranes.
 - “above the waist” (HSV-1)
 - “below the waist” (HSV-2).
- As with all herpesviruses, herpes simplex persists in a **latent form** and reactivates to cause viral excretion and/or disease.

EPIDEMIOLOGY

- Direct contact with infected secretions is the principal mode of spread.

PATHOGENESIS

Acute Infections



- Infection produces inflammation and giant cells.
 - the union of several distinct cells, often forming a granuloma.
- The virus can infect and spread in axons and ganglia.
- Spread of virus can occur by cell-to-cell transfer and can therefore be unaffected by circulating immune globulin.

Latent Infection

- Latent infection by HSV-1 has been demonstrated in **trigeminal**, **superior cervical**, and **vagal nerve ganglia**, and **occasionally** in the S2–S3 dorsal sensory nerve root ganglia.
- Latent HSV-2 infection has been demonstrated in the sacral (**S2–S3**) region.

Latent Infection

- Latent infection of nervous tissue by HSV does not result in the death of the cell.
- Reactivation account for most recurrences of both genital and orolabial infections. It can be precipitated by sun exposure, fever or trauma.

CLINICAL ASPECTS

Manifestations

Herpes Simplex Type 1

- **Primary infections** is often asymptomatic.
- When symptomatic, typically in children, it appears most frequently as gingivostomatitis, with fever and ulcerative lesions involving the buccal mucosa, tongue, gums, and pharynx.



CLINICAL ASPECTS

Manifestations

Herpes Simplex Type 1

- Infection with HSV-1 is usually “above the waist.” It consists of grouped or single vesicular lesions, painful fluid-filled that become pustular and coalesce to form single or multiple ulcers.



- The lesions are quite painful, and the acute illness usually lasts 5 to 12 days.
- After this initial infection, HSV may become **latent** within sensory nerve root ganglia of the trigeminal nerve.
- Recurrent cold sores are usually unilateral.

- It sometimes infects the finger or nail area. This infection, termed **herpetic whitlow** **which** mimics bacterial paronychia.



- Herpetic corneal and conjunctival infection can cause blindness.
- HSV encephalitis may rarely occur as a result of reactivation.



Herpes Simplex Type 2

- Genital herpes is an important sexually transmitted disease.
- **Both** HSV-1 and HSV-2 can cause genital disease.

Primary Genital Herpes Infection

- Multiple painful vesicopustular lesions after few days from sexual contact.

Recurrent Genital Herpes Infection

- A common symptom is prodromal paresthesias (tingling , burning sensation) in the perineum, genitalia, or buttocks that occur 12 to 24 hours before the appearance of lesions.

Neonatal Herpes

- It usually results from transmission of virus during delivery through infected genital secretions from the mother.
- In utero infection, although possible, is uncommon.

TREATMENT

- Several antiviral drugs have been developed. The most effective and commonly used is the nucleoside analog **acyclovir**.

Human Papilloma Virus

- Papillomaviruses are circular double-stranded Icosahedral DNA viruses (> 100 types).



Pathogenesis

- Transmission of viral infections occurs by close contact.
- Viral particles are released from the surface of papillomatous lesions.



Pathogenesis

- warts, including skin warts, plantar warts, flat warts, genital condylomas, and laryngeal papillomas.

- HPV genital infections are sexually transmitted and represent the most common sexually transmitted disease in the U.S.
- HPV types 16 and 18 are considered to be high cancer risk. Many HPV types are considered benign.

- Cervical cancer develops slowly, sometimes taking years to decades. Multiple factors are involved in progression to malignancy.

Epidemiology & Clinical Findings

- Over 99% of cervical cancer cases are linked to genital infections with HPVs.
- Epidemiologic studies indicate that HPV-16 and HPV-18 are responsible for more than 70% of all cervical cancers.

Prevention

- Vaccines (noninfectious recombinant vaccine produced in yeast) against HPV are expected to be a cost-effective way to reduce anogenital HPV infections, the incidence of cervical cancer, and the HPV-associated health care burden.

Prevention

- Adolescent and young adult females make up the initial target population for vaccination. It is not known how long vaccine-induced immunity lasts.