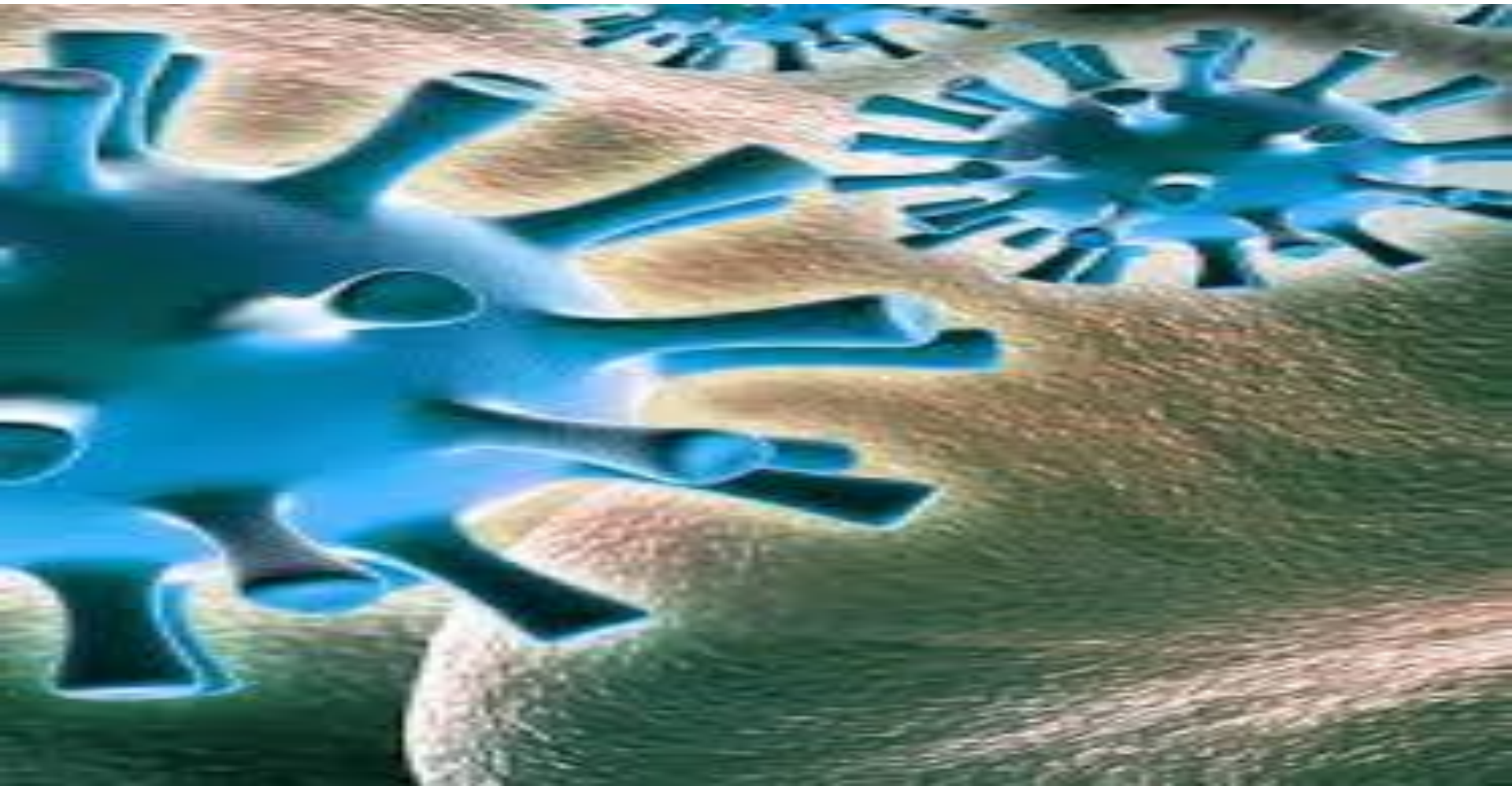


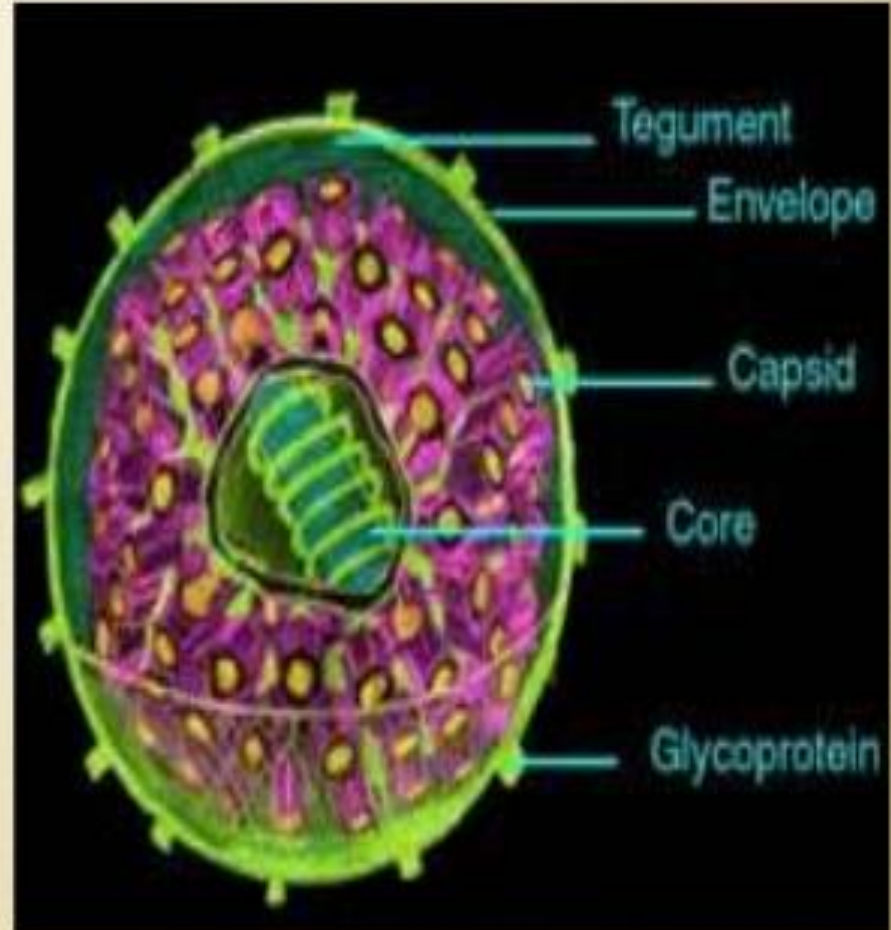
THIRD CLASS

BETA & GAMMA HERPES VIRUS



Cytomegalovirus

Cytomegalovirus (from the Greek cyto-, "cell", and -megalo-, "large") is a viral genus of the viral family known as Herpesviridae or herpes viruses. The species that infects humans is commonly known as human CMV (HCMV) or human herpesvirus-5 (HHV-5), and is the most studied of all cytomegaloviruses



PROPERTIES

Belong to the beta-herpes virus subfamily of herpes viruses

Double stranded DNA enveloped virus

A largest genome of the herpes virus group.

MODE OF TRANSMISSION

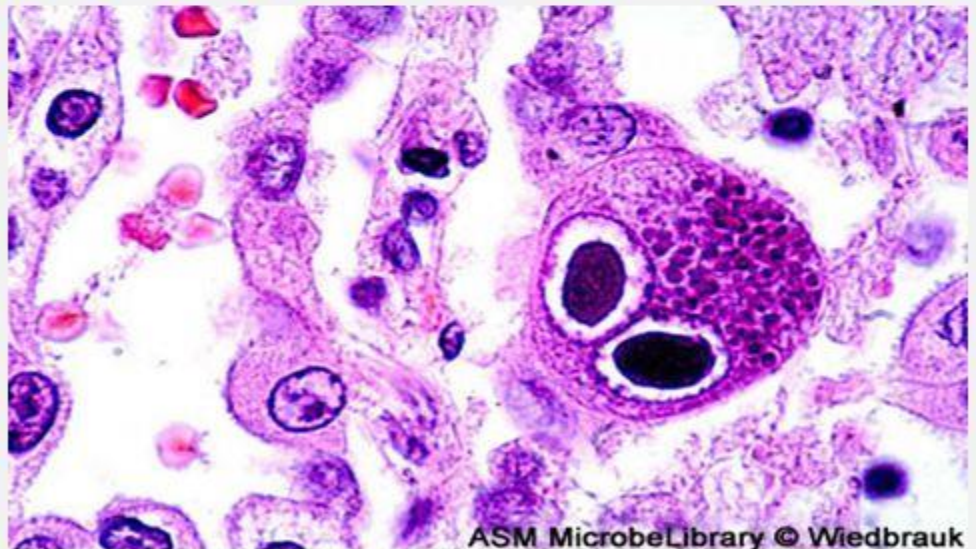
- ❑ Spreads slowly and by close contact
- ❑ Transmission is by saliva or by sexual contact.
- ❑ Special mode of transmission by blood transfusion or organ transplantation
- ❑ Virus detected in saliva, urine, blood, semen, milk, cervical secretions

- Through the breast milk of an infected woman
- Infected pregnant women can pass the virus to their unborn babies

Laboratory diagnosis of CMV infection:

- 1) Isolation of the virus from throat washings, urine, exudate on **tissue culture**.
- 2) Detection of viral DNA by **PCR**.
- 3) Detection of viral antigens in urine or saliva.
- 4) Sero-diagnosis: Detection of CMV specific IgM or rising titer of IgG by **ELISA**.
- 5) Tissue biopsy: stained for Inclusion bodies.

**Lung section showing
Typical owl-eye inclusions.**



EPSTEIN BARR VIRUS (EBV)

Family Herpesviridae, subfamily gammaherpesvirinae,

Structure :- double stranded DNA enveloped virus and Genome is linear

- Etiologic agent of infectious mononucleosis and African Burkitt's Lymphomas.
- Recent study has linked with Hodgkins lymphoma
- Cultured in only lymphoblastoid cell lines derived from B lymphocytes of humans and higher primates

Epstein-Barr Virus (EBV)

- Ubiquitous virus; infects lymphoid tissue and salivary glands
- Transmission – direct, oral contact and contamination with saliva
- Infectious mononucleosis – sore throat, high fever, cervical lymphadenopathy; develop after 30-50 day incubation
- Dormancy in B cells; reactivated; may be asymptomatic

EBV Laboratory Diagnosis

- 1. Blood film:** lymphocytosis and many abnormal lymphocytes.
- 2. Detection of EBV in lymphocytes by PCR.**
- 3. Paul-Bunnell test:** It is non specific test in which we add serum of the patient + sheep RBCs → agglutination of RBCs (positive).
- 4. Detection of specific antibodies to viral antigens.**
- 5. Virus isolation from saliva.**