

Epstein Barr virus (EBV)

Transmission: saliva. So, the primary infection by EBV is called “kissing disease”.

Tropism: Epithelial cells and B lymphocytes. **Site of latency:** B lymphocytes.

Receptor: CD21 (complement receptor 2)

Clinical features: The majority of primary infections is asymptomatic especially in children. In adults, primary infection is called “infectious mononucleosis”.

Infectious mononucleosis = Fever + pharyngitis + cervical lymphadenopathy (تضخم العقد الليمفاوية في العنق)

Other features of infectious mononucleosis: fatigue, headache, splenomegaly.

Since EBV is an oncovirus, it has been linked the following cancers:

- A. Burkitt lymphoma
- B. Nasopharyngeal carcinoma
- C. Hodgkin and non-Hodgkin lymphomas
- D. Gastric carcinoma

Other disease linked to EBV infection in AIDS patients: **oral hairy leukoplakia**, which is a BENIGN wart-like growth that on the tongue. ورم حميد على لسان مرضى الإيدز

Diagnosis:

- A. Clinical.
- B. Blood film showing atypical lymphocytes (large reactive T cells).
- C. PCR.
- D. Serology: IgM to viral capsid antigen (VCA) in primary infection and IgG to EBV nuclear antigen (EBNA) indicates past infection.

Treatment:

EBV primary infection is a self-limited disease. Treatment is supportive.

Prevention: Vaccines have not been approved for prevention so far.

Epidemiology: In young adults, more than 90% have already been infected by EBV. In developing countries infection occurs in early childhood. In developed countries, infection occurs later in life at the beginning of sexual activities, kissing.

Cytomegalovirus (CMV)

Transmission: saliva, direct contact, mother-to-child

Tropism: many many many cells. **Site of latency:** many many many cells. **Receptor:** many many many receptors.

Clinical features: The majority of primary infections is asymptomatic especially in children. In adults, primary infection is called “infectious mononucleosis-like syndrome”.

Infectious mononucleosis = Fever + pharyngitis + cervical lymphadenopathy (تضخم العقد الليمفاوية في العنق)

Other causes of infectious mononucleosis-like syndrome: EBV, herpes simplex viruses.

Other Diseases:

- A. The importance of CMV reactivation is among **immunosuppressed patients** (for example in AIDS patients). It can cause: Pneumonia, gastroenteritis, retinitis (التهاب شبكية العين)
- B. Congenital infection: CMV is the most common cause of **congenital infection**. Congenital CMV infection can result in deafness, blindness, mental retardation (تخلف عقلي)

Diagnosis:

This is the only material required for the exam. No other source is needed

For any questions you can contact me through the following email: malik.sallam@ju.edu.jo

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Herpesviruses (EBV, CMV, roseola viruses, and Kaposi sarcoma herpesvirus). Malik Sallam, MD, PhD

- A. Clinical (primary infection is mostly asymptomatic)
- B. Blood film showing atypical lymphocytes (large reactive T cells).
- C. PCR.
- D. Serology: IgM in primary infection and IgG to indicates past infection.

Treatment:

CMV primary infection is a self-limited disease. Treatment is supportive.

In immunocompromised patients and in congenital infection: Ganciclovir (antiviral drug) is used.

Prevention: Vaccines have not been approved for prevention so far.

Epidemiology: In young adults, more than 90% have already been infected by CMV.

Roseola viruses (HHV-6 and HHV-7)

Transmission: saliva.

Clinical features: infection is usually acquired in the first year of life (in infants). The disease is called roseola infantum (exanthema subitum or sixth disease). The disease is characterized by **high fever and skin rash**. Importance of latency and reactivation is not known 😊

Diagnosis:

- A. Clinical
- B. PCR

Treatment:

Supportive. Antipyretics خافض حرارة

Prevention: Vaccines have not been approved for prevention so far.

Epidemiology: In children, more than 90% have already been infected.

Kaposi sarcoma herpesvirus (HHV-8)

Transmission: saliva, sexual especially among male homosexuals, mother-to-child transmission.

Clinical features: Primary infection is asymptomatic. In AIDS patients, or in the elderly Kaposi sarcoma can occur (cancer of the blood and lymph vessels). It appears on the skin or mucous membranes.

Diagnosis:

- A. Histopathology
- B. PCR

Prevention: Vaccines have not been approved for prevention so far.

Epidemiology: The prevalence is low in the general population. The prevalence is high among male homosexuals.

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