HIV is a human deficiency retrovirus ,a single stranded enveloped RNA virus ; retroviruses have reverse transcriptase enzyme which transcribe RNA to DNA ,there are two species of HIV :HIV 1 and HIV 2.

HIV is transferred mainly by body fluids ;blood saliva tears etc…

HIV affect WBCs (CD4 positive cells) and macrophages and thus they are called lymphotropic virus (go directly to lymphocytes ).

History of HIV is unknown but the think that HIV transferred to humans from animals mainly some monkey species that live in Cameron .

They used to call it SIV but after the transmission to humans in 1983 they called it HIV.

HIV was discovered by a French scientist and he got a nobel prize for this descovery , he called it lemphoadenopathy related virus at that time .

The Dr. showed a picture for Cemetery in south Africa in which they used to bury people who died from HIV in.

In south east Asia Malaysia ,thailand and Taiwan also have high percentage of HIV patients.

The lowest percentage presents in the middle east

In Jordan there are 1000 patients approximately **300** are Jordanian and most of them non Jordanian.

Ways of transmission: sexual transmission ( most common one ) , body fluids such as blood transfusion or vertical transmission ( from mother to child ) or IV drug abuse .

HIV is a retrovirus infection transmitted by blood and body fluids , directed against CD4 positive cells leading to severe immune defects ,, T-helpers mainly are involved in all aspects of immunity so the defense against viral , fungal , mycobacterial and parasitic and other infection are impaired .

AIDS , this term is used when CD4 cells count is less than 200 cell/ml due to HIV infection

**Clinical featers ( 4 stages ) :**

1. **Acute HIV infection**

non-specific symptoms ;like fever malaise and lymphadenopathy

1. **Continuing HIV infection stage (latent infection )**

The virus continue replication inside the cells .

It may continue replicating for several years without any symptoms and gradual reduction of CD4 count .

1. **HIV disease:**

CD4 count is less than 500 cell/ml .

The patient have symptoms like :

1. Mainly the symptoms are opportunistic infections ( viral , fungal and parasitic infections)
2. Neoplasms especially lymphoma and Kaposi sarcoma .
3. Neuropsychiatric disorders General features : weight loss ,anorexia , diarrhea and premature aging .
4. **AIDS stage ( the last stage of infection ):**

 CD4 count is less than 200 cell/ml ( very low ) .

The symptoms are the same as HIV disease symptoms but more severe , more persistent and more recurrent .

Increase susceptibility to all kind of tumors , especially Kaposi sarcoma and lymphoma .

General deterioration occur and end with death (poor prognosis )

**Management of the disease :**

By using anti-retroviral drugs , highly active anti-retroviral drugs .

These drugs decrease the severity of symptoms , but the prognosis of AIDS is invariably poor ( it always leads to death ) .

**Oral lesions in HIV reflect the t-cell immune defect :**

1. Mainly infections ( either viral , bacterial , fungal or protozoal ) .
2. Neoplasm ( Kaposi sarcoma and non-Hodgkin lymphoma ).
3. Autoimmune symptoms ( ulcer ,salivary gland disease ,thrombocytopenia ,bleeding tendency )
4. Neural manifestations as facial palsy , trigeminal neuralgia and face disturbances .
5. Other features as pigmentation ( non spsific ) and side effects of drugs

 **lesions of HIV divided into :**

1. **Strongly associated** >very frequent occur in HIV patients > Candida is the most common oral feature of AIDS , others as hairy leukoplakia , HIV gingivitis and periodontitis , necrotizing ulcerative gingivitis NUG , Kaposi sarcoma and lymphoma .
2. **Less commonly associated** > such as atypical ulcers , dry mouth , salivary gland swellings , mucoceles and viral infections other than EBV ( EBV) strongly associated
3. **Possibly associated lesion** > anything can be associated with AIDS .

oral lesions associated with HIV :

* **candidal** infection is the **most common** opportunistic infection , Candida albican is the most common Candida species responsible for candidiasis .
* **Hairy leukoplakia** can occur with any immunosuppressed patents , appears as a corrugated white hairy lesion on lateral border of the tongue and associated with EBV , it is a predictor of poor prognosis of AIDS ( when this lesion appear in HIV infected patients this mean that they are close to the end stage of AIDS (death) ,,doesn’t have malignant potential .

**Note** : Kaposi sarcoma and lymphoma are the most common neoplasm in HIV patients

* **Kaposi sarcoma** is commonly associated with HIV we consider it as first or second most common tumor in HIV patients and it arises from endothelial cells , it is caused by Kaposi sarcoma herpes virus ( herpes virus type 8 ) and this virus doesn’t case any other disease just Kaposi sarcoma

Presentation is variable it could be red ,blue ,purple ,macula ,nodule ,ulcer or mass

The most common sites of Kaposi sarcoma are nose , palate and anterior maxillary gingiva .

 Kaposi sarcoma management is difficult ,its only symptomatic management .

* **Non-Hodgkin lymphoma** is the most common neoplasm in HIV patients , appears as lymphadenopathy and oral masses
* **Plasmablastic lymphoma** **PBL** (it’s a type Non-Hodgkin lymphoma ) and its specific to HIV patients ,, of unknown case but its associated with Kaposi sarcoma herpes virus.
* **HIV Gingivitis and Periodontitis** :

Different from normal gingivitis by that it is not appropriate with the level of oral hygiene and plaque control ( the patient may have good OH but there is severe gingivitis and periodontitis ) , and periodontitis in HIV patients is more localized , and they have linear gingival erythema with necrotizing gingivitis and periodontitis .

* HIV patients have **Atypical Ulcers** which look like Aphthous ulcers .

Ulcers may be neoplastic or due to opportunistic infections ( such as Histoplasmosis , TB , non-TB mycobacteria and leshmania ) or drugs-related ( as anti-retroviral drugs ).

So Diagnosis of ulcers in HIV patients is very difficult due to many reasons .

* HIV causes **salivary gland disease** in late stage of AIDS characterized by salivary gland enlargement of submandibular gland , xerostomia and parotitis , recurrent sialadenitis .

**There are many studies on oral manifestation of HIV + patients most of them in Africa and India patients ,,they examine group of patients and found that :**

1. more reduction in CD4 cells the susceptibility to develop oral lesions more .
2. most common lesion is oral Candida ,other lesions as we said hairy lukuplakia ,liner gingival erythema, necrotizing ulcerative gingivitis and periodontitis and this is important for prognosis which is poor