ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)


بسم الله الرحمن الرحيم

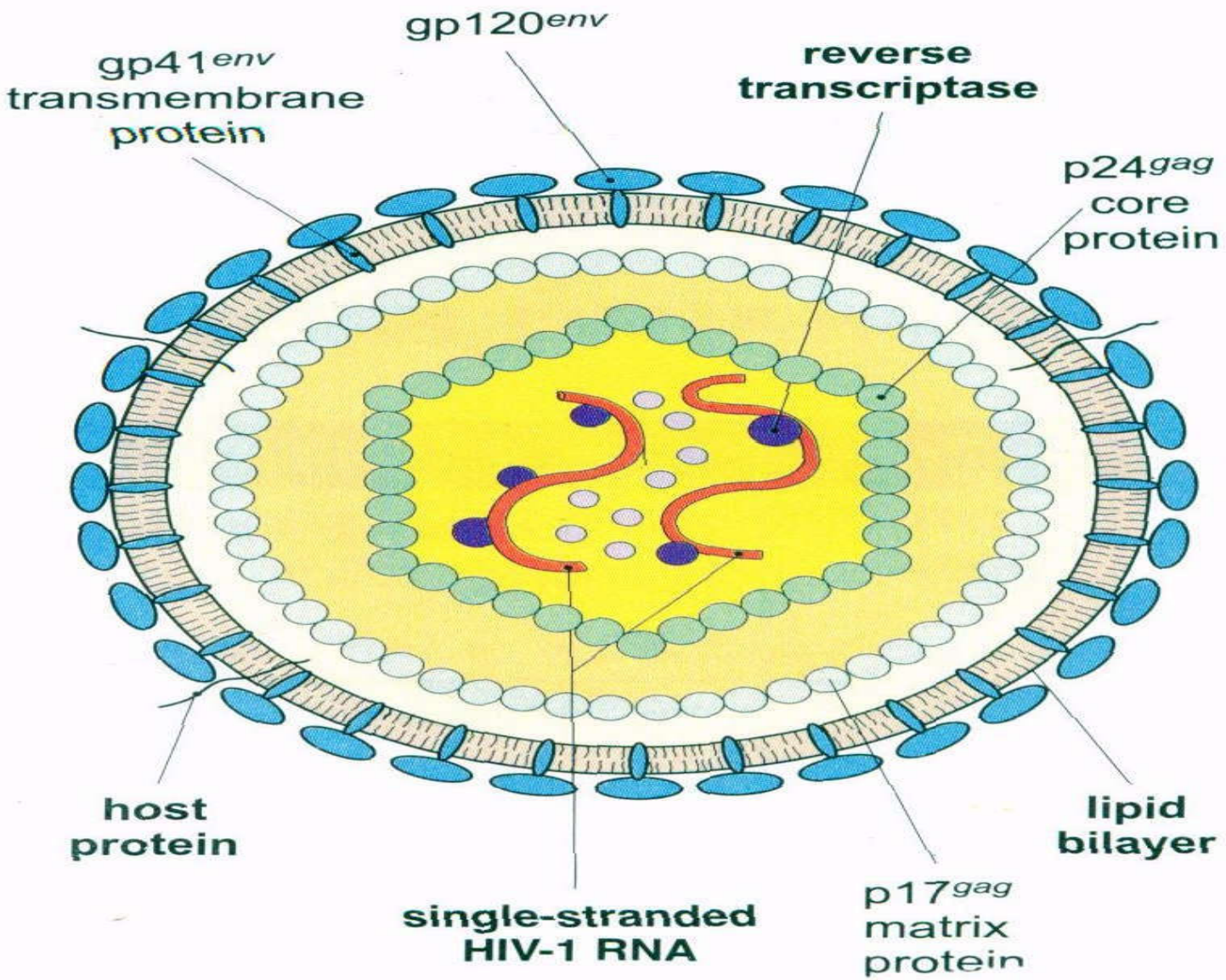
*definition and etiology
*structure and pathogenesis of HIV
*mode of infection
*c/p
*diagnosis
*ttt

Def:

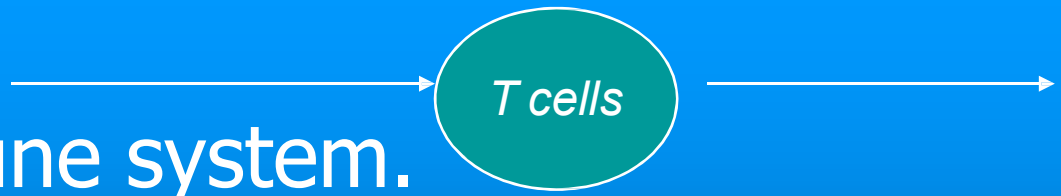
Alarming fatal syndrome characterized by irreversible acquired decrease in the cell mediated immunity predisposing the host to severe opportunistic infections.

Etiology:

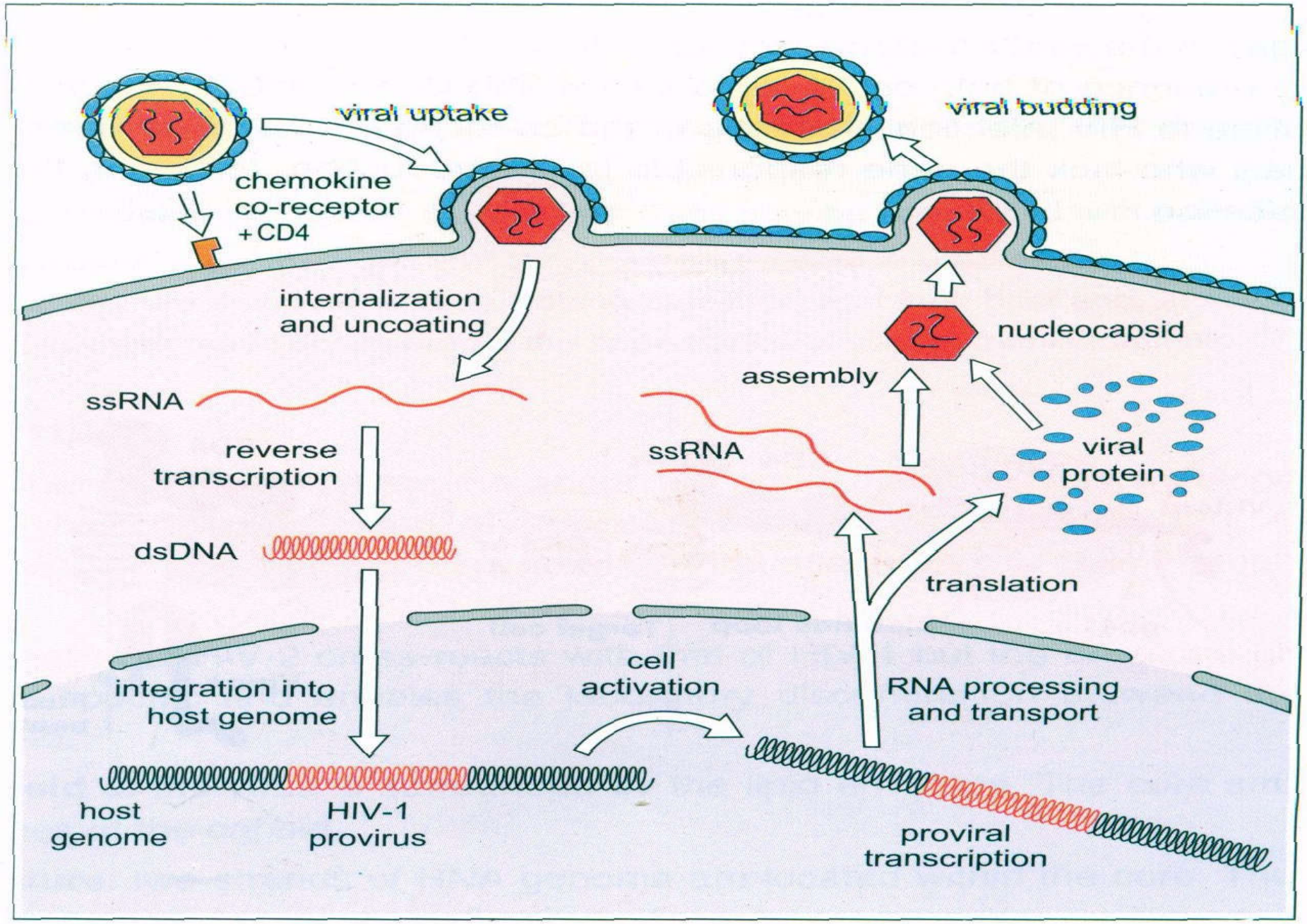
- HIV virus type 1 and 2


gp120env
gp41env transmembrane protein
reverse transcriptase
p24gag core protein
host protein
single-stranded HIV-1 RNA
p17gag matrix protein
lipid bilayer

Pathogenesis:

- T- helper cells are the maestro of the immune system.
- HIV trigger mainly t- helper cells
- HIV 

all immune system.
- Opportunistic infections and tumors


viral uptake
chemokine
co-receptor
+CD4
internalization
and uncoating
ssRNA
reverse
transcription
dsDNA
integration into
host genome
host
genome
HIV-1
provirus
cell
activation
viral budding
nucleocapsid
assembly
ssRNA
viral
protein
translation
RNA processing
and transport
proviral
transcription

Transmission:

1. *Sexual*
2. *Blood and blood products*
3. *Contaminated equipments*
4. *maternofetal*

Groups at high risk:

1. Homosexuals
2. IV drug abusers
3. Hemophiliacs
4. Blood and blood products recipients
5. Heterosexual contacts of HIV Ab +ve individuals
6. Children of HIV Ab +ve mothers

CLINICAL MANIFESTATIONS

1. Acute infection: glandular fever like illness with fever, chills, myalgia and arthralgia.
2. Asymptomatic infection: few months to many years.
3. Persistent generalized Lymphadenopathy: 1cm in diameter, 2 or more extra inguinal sites, for 3months. Symmetrical, rubbery, mobile and non tender.

4. Symptomatic disease:

Early "ARC":

- fever- wt loss- diarrhea- fatigue- headache- night sweats.
- Lab findings: ↓ anemia- ↑ leucopenia- thrombocytopenia- T cells- Igs levels.

Late symptomatic disease:

- Progressive ↓ immune function ⟶ AIDS

AIDS indicator diseases:

1. *Opportunistic infections: bacterial, fungal, viral and parasitic infections.*
2. *Encephalopathy (HIV dementia)*
3. *Malignancy: Kaposi sarcoma, brain lymphoma and non Hodgkin lymphoma.*
4. *HIV wasting syndrome (slim disease)*

Lab. Findings:

1. Antibodies: ELISA and western blot tests
2. Antigen.
3. Viral genetic material "RNA": PCR

TREATMENT:

- NO specific effective treatment.
- Ziduvudine (AZT)


THANK YOU