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DEFINITION

- HIV is a unique type of virus (a retrovirus) that invades the T-helper cells (CD4 cells) in the body of the host (defence mechanism of a person).

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INCIDENCE

According to WHO

- 2.3 million children below 15 years are affected (i.e) 7.7% of the world population.
- Globally 91% from vertical transmission.
- 5% from nosochromial transmission.
- 4% from sexual abuse.

causes

- HIV virus
- From mother to fetus (i.e) during pregnancy, labor and delivery and breast feeding).
- Blood transfusion
- Sexual transmission

Risk factor

- Advanced maternal disease
- High maternal viral load
- Prolonged rupture of membranes
- Vaginal bleeding
- During breast feeding

Epidemiological factors

Agent

- Human immunodeficiency virus

HOST

Agent

- Most cases in between 20-49 years
- Rarely seen in children under 15 years

Sex

- Seen in both males and females
- Mostly in homosexual and bisexual mens.

Cont...

High risk

- Male homosexual and heterosexual partners
- IV drug abusers, transfusion if infected blood

Types of HIV

1. HIV-1
2. HIV-2

HIV-1

HIV-2

HIV-1 is more common worldwide

HIV-2 is found in west africa, mozambique, and angola

HIV-1 is easily transmitted

HIV-2 is less easily transmitted

HIV-1 is pathogenic in nature

HIV-2 is less pathogenic

Duration of HIV-1 infection is quite long

Duration of HIV-2 infection is shorter

HIV-1 is commonly seen in india

HIV-2 is relatively rare and has not been reported from india

Source of infection

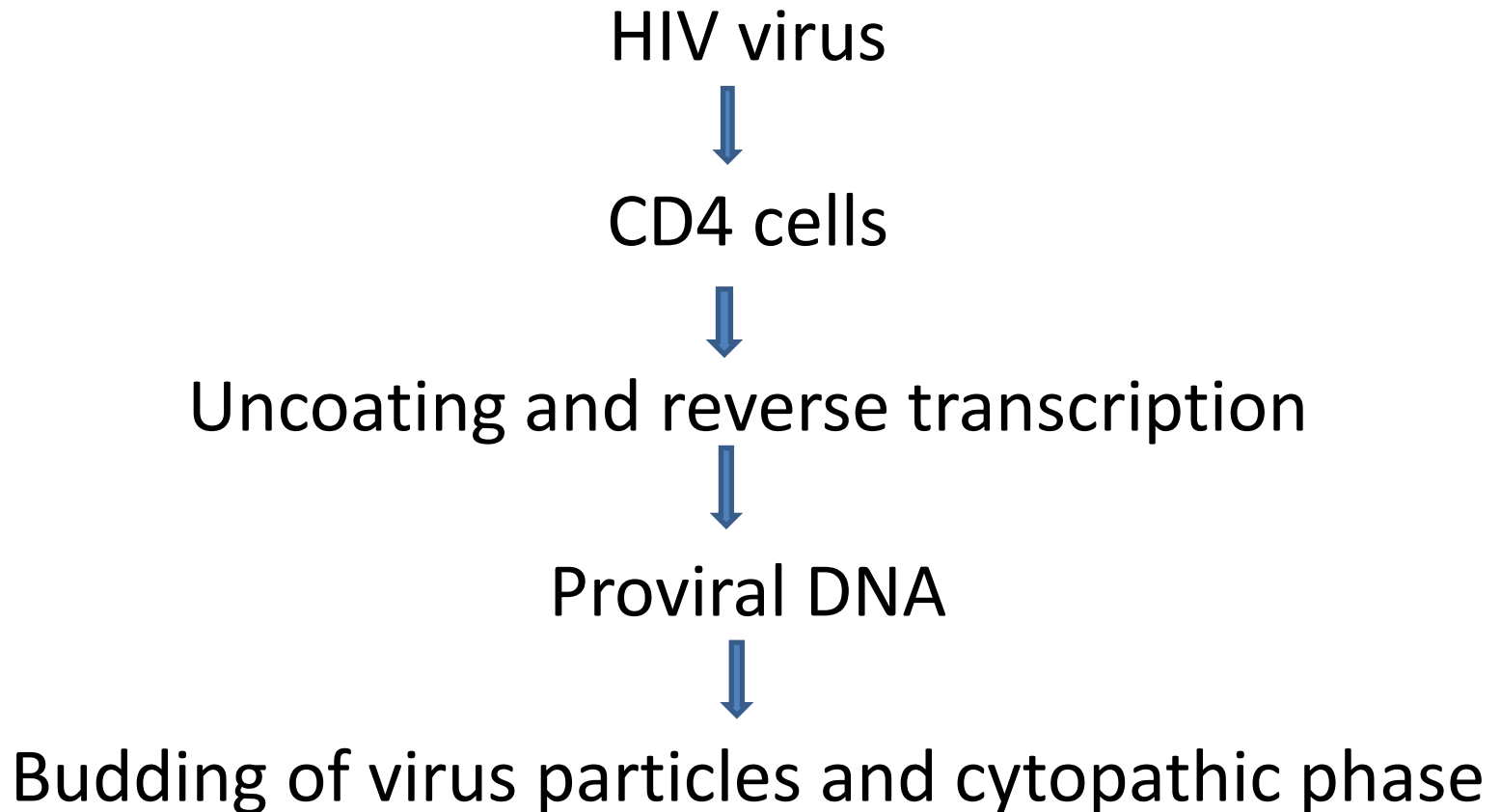
1. Greater concentration

- Blood
- Semen

2. Lesser concentration

- Tears
- Saliva
- Urine
- Breast-milk
- Cervical and vaginal secretions

Pathogenesis of hiv



Mode of transmission

1. During sexual contact

- Unprotected sex

2. Through infected blood

- Sharing needles
- Use of contaminated needles and syringes

3. Through infected blood/blood products

- Transfusion of HIV infected blood or blood products

4. From mother to child

- During pregnancy
- During child birth
- Through breast feeding

Incubation period

- Upto 6 years or more

Clinical features

WHO clinical staging system of HIV infection and related disease in children:

1. Asymptomatic stage (stage 1)
2. Symptomatic stage (stage 2)
3. AIDS (stage 3)

1. Asymptomatic infection

- Persistent generalized lymphadenopathy.

2. Symptomatic stage

- Unexplained chronic diarrhoea
- Severe persistent or candidiasis outside the neonatal period
- Weight loss or failure to thrive
- Persistent fever
- Recurrent severe bacterial infection

3. AIDS

- Opportunistic infections
- Progressive encephalopathy
- Malignancy
- Recurrent septicemia or meningitis

Phases of HIV infection

1. Phase 1 (3-12 weeks)

- Acute HIV syndrome
- Sore throat
- Fever
- Skin rash
- Meningitis
- High viremia

2. Middle chronic phase (10-12 years)

- Competition between HIV and host immune system
- Patient asymptomatic or has mild symptoms
- Moderate viremia

3. Phase 3

- Full blown AIDS
- Severe immuno-suppression
- Drop in CD4 count below 200/ μ l (normal count: >950 CD4 cells/ μ l)

Signs and symptoms

Major signs

- Weight loss (10% of body weight)
- Chronic diarrhoea
- Prolonged fever or intermittent fever for over a month

Minor signs

- Persistent cough over a month
- Generalized dermatitis
- Recurrent herpes zoster
- Oropharyngeal candidiasis
- Generalized lymphadenopathy

Other signs and symptoms

- Hepatosplenomegaly
- Chronic diarrhoea
- Parotid gland enlargement
- Leukopenia
- Hepatitis
- Cardiomyopathy
- nephropathy

Screening test

1. Enzyme linked immunosorbent assay(ELISA)
2. Western blot test
3. Absolute CD4 lymphocyte count
4. HIV viral load tests

management

- There is no curative treatment of hiv aids. No vaccine are available for prevention. So children should be protected from contacting the hiv infection
- Immunization can be given to hiv infected infant and children. (i.e hepatitis B, polio vaccine, MMR, BCG, et.,)
- Plenty of fluid should be provided
- Nutritional food should be given
- Medication like antidiarrhoeal, antipyretics, antitusive drug should be given.

Cont...

- Antiretroviral drugs is given when the child have signs of immunodepression or hiv associated symptoms. (i.e didanosine, zalcilabine, staudine, etc.,)

prevention

- Antiretroviral treatment with combination therapy or post exposure prophylaxis to prevent hiv in children.
- Vertical transmission can be prevented by zidovudine prophylaxis to the infected pregnant women and to infant till 6 weeks of life.
- Health education should be given to people to avoid blood borne hiv transmission.
- Provide specific prophylaxis for hiv manifestations.
- Parent to child transmission can be prevented by avoiding indiscriminate sexual practices of adults.

Cont...

- Sterilize syringe and needles should be used for immunization.
- Aseptic techniques should be used during delivery.
- Promoting community awareness of spread of hiv infection for unsafe practices.

Nursing diagnosis

1. Risk for infections related to immunodeficiency rate
2. Altered nutrition related to anorexia, pain in abdomen.
3. Diarrhoea and dehydration related to enteric pathogens and infection.
4. Altered pain related to advanced hiv diseases.
5. Fear and anxiety related to diagnostic and treatment procedures.
6. Knowledge deficit regarding transmission of hiv infection.

Thank you

