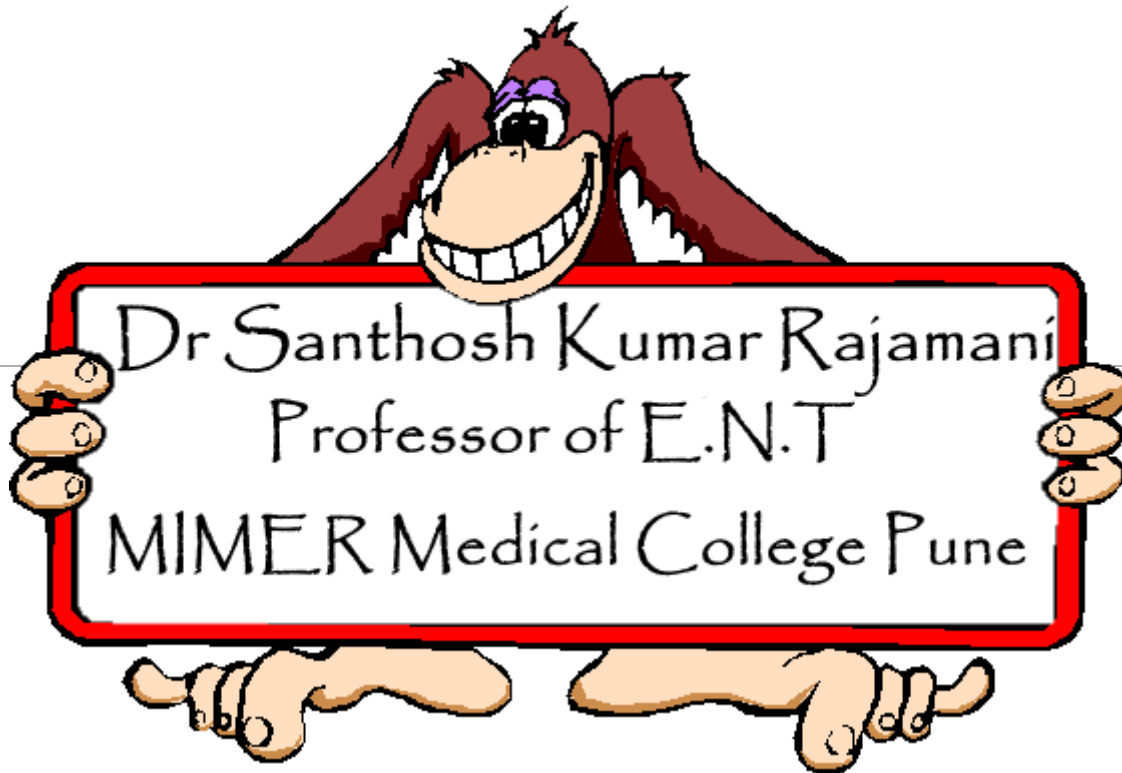


Human Immunodeficiency Virus Infection (HIV) in E.N.T



Epidemiology

- Manipur, Maharashtra, Nagaland, Punjab and Daman & Diu
- 85% were due to sexual relationship
- 3% were due to blood and blood products
- 2.5% due to perinatal transmission

Transmission

- Sexual contact (MC India) Heterosexual $M \leftrightarrow F$
- Homosexual (MC west) $M \leftrightarrow M$, $W \leftrightarrow W$
- Skin piercing devices
- Transfusion of blood and its products
- Mother to child: Prenatal (transplacental), perinatal (during birth) and postnatal approximately 25%
- Health care workers- Contact with blood and body fluids such as amniotic, pleural, peritoneal or pericardial fluids.
- Risk from specimens of urine, stool, saliva, sputum, tears, sweat and vomitus is negligible

Human Immunodeficiency Virus

- ❑ Types: HIV infection of human beings are of two types:
- ❑ a. HIV Type1: Most common and very pathogenic.
- ❑ b. HIV Type2: Less common and less pathogenic

Immunology

- ☐ CD4 count
- ☐ Immunity
- ☐ Course of disease
- ☐ Initial viremia:
- ☐ Latent period
- ☐ Advanced disease

Diagnosis

- ❑ ELISA test - high sensitivity of > 99.9%.
- ❑ Western blot test – confirmatory test
- ❑ CD4 cell count: Normal count 600 1500/mm³
- ❑ PCR
- ❑ Complete blood count
- ❑ Beta 2-Microglobulin level
- ❑ P-24 antigen: The presence of P-24 core protein of HIV Indicates active HIV replication.
- ❑ This is an earliest test, which becomes positive even before the seroconversion.

Clinical Classification

Three Clinical Categories

1. Asymptomatic HIV infection (Initial viremia)
2. Symptomatic conditions
3. AIDS

Treatment

- ❑ Treatment for opportunistic infections and malignancies
- ❑ Antiretroviral treatment
- ❑ hematopoietic stimulating factors
- ❑ prevention of opportunistic infections

Antiretroviral treatment

Nucleoside reverse transcriptase inhibitors (NRTI)	Zidovudine, lamivudine, tenofovir, emtricitabine, stavudine, didanosine, abacavir, apricitabine, elvucitabine, racivir
Non nucleoside reverse transcriptase inhibitors (NNRTI)	Nevirapine, efavirenz, etravirine, rilpivirine
Protease inhibitors (PI)	Ritonavir, atazanavir, lopinavir, darunavir, indinavir, saquinavir, nelfinavir, amprenavir, fos-amprenavir, tipranavir
Integrase inhibitors	Raltegravir, elvitegravir
Receptor blockers	TNX 355
Co-receptor blockers	Maraviroc (R5), vicriviroc (R5), PRO 140 (R4), AMD 070 (R4)
Fusion inhibitors	Enfuvirtide
Maturation inhibitor	Bevirimat

Cervical Adenopathy

Indications for biopsy: The conclusive fine needle aspiration cytology (FNAC) can avoid open biopsy. The indications of cervical lymph node biopsy include:

Single big node

Progressive enlargement of adenopathy

Cervical Adenopathy

Marked constitutional symptoms

Cytopenia and raised erythrocyte sedimentation rate (ESR)

Causes: Cervical lymphadenopathy can be due to:

Infection: Typical and atypical tuberculosis, histoplasmosis, toxoplasmosis and cat-scratch disease.

Malignancy: Lymphoma, carcinoma and Kaposi sarcoma.

Neoplasm

- ❑ Most common neoplasms: They are
 - ❑ Kaposi sarcoma
 - ❑ Non-Hodgkin's lymphoma
 - ❑ Lymphoepithelial cysts of parotid gland
 - ❑ Hodgkin's Lymphoma
 - ❑ Cutaneous neoplasms: Squamous cell carcinoma

HIV Manifestations in E.N.T

Manifestations

Oral manifestations

- ❑ Most common is oral candidiasis, followed by hairy leukoplakia
- ❑ Oral lesions can indicate failure of antiretroviral therapy
- ❑ Major recurrent aphthous ulcers indicate more advanced HIV/AIDS
- ❑ Thalidomide is most effective treatment for aphthous ulcers
- ❑ Kaposi's sarcoma, herpes simplex, herpes zoster, HPV lesions also seen
- ❑ Periodontal diseases like linear gingival erythema and necrotizing ulcerative periodontitis occur
- ❑ Oral tuberculosis and lymphomas are rare oral manifestations

Hairy Leukoplakia



Nasosinusual manifestations

- ❑ Rhinosinusitis and allergic rhinitis are common
- ❑ Opportunistic infections more likely if CD4 count is low
- ❑ Treatment is antibiotics and decongestants
- ❑ Kaposi's sarcoma and lymphomas can occur in nasal cavity

Manifestations in the neck

- ❑ Enlarged lymph nodes are most common finding
- ❑ Can be due to infections like tuberculosis
- ❑ Parotid gland involvement and lymphoepithelial cysts can occur

Otologic manifestations

- ❑ Otitis externa, otitis media, otitis media with effusion seen
- ❑ Malignant otitis externa occurs more frequently
- ❑ Pneumocystis jiroveci infection can cause outer ear polyps
- ❑ Sensorineural hearing loss and peripheral facial palsy can occur
- ❑ Kaposi's sarcoma may affect outer ear canal or tympanic membrane

Oro-pharyngeal manifestations of HIV infection

- ❑ Oral candidiasis is the most common, occurring in 30-90% of HIV positive adults
- ❑ Treatment includes topical antifungals for mild cases, systemic fluconazole, itraconazole or voriconazole for moderate/severe cases
- ❑ Oral hairy leukoplakia caused by Epstein-Barr virus is asymptomatic; no treatment needed unless for cosmetic reasons
- ❑ Kaposi's sarcoma most common oral malignancy; treated with surgery, chemotherapy or radiation
- ❑ Non-Hodgkin's lymphoma requires biopsy for diagnosis and chemotherapy for treatment

Neck manifestations of HIV infection

- ❑ Cervical lymphadenopathy most common neck manifestation, can be reactive or from infections/cancers
- ❑ Parotid gland enlargement seen in 3-30% patients, usually benign lymphoepithelial lesions
- ❑ Treatment controversial but options include parotidectomy, aspiration, irradiation

Otological manifestations of HIV infection

- ❑ Otitis externa common, usually due to *Pseudomonas*
- ❑ Acute otitis media seen in end-stage disease, requires broad-spectrum antibiotics
- ❑ Mastoiditis may need surgical drainage if unresponsive to antibiotics
- ❑ Sensorineural hearing loss in 21-49% patients, likely central auditory pathways affected
- ❑ Facial nerve palsy 100 times more common; treated with antivirals, steroids

Nasal manifestations of HIV infection

- ❑ Rhinosinusitis very common, 30-68% prevalence
- ❑ Bacteriology similar to general population but atypical organisms more likely with low CD4 count
- ❑ Treatment is antibiotics, nasal decongestants, surgery if needed
- ❑ Allergic rhinitis also frequently seen due to increased IgE

Thank You!
