

Opportunistic Infections in Patients living with AIDS

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Abstract - Opportunistic infection are infections that are caused to people with weakened immune system. It is caused due to varying germs: viruses, fungi, parasites, and bacteria. Salmonella infection, pneumonia, candidiasis, toxoplasmosis, and tuberculosis are included in HIV related opportunistic infection. People should take HIV medicine each and every day, these medicines prevent HIV from damaging the immune system. The type of diet patient have can also improve their immune system.

Medicines like antiviral, antifungal, and antibiotic can treat this disease. Germs are the primary cause of HIV related opportunistic infection.

Index Terms – Tuberculosis, Oral pharyngeal candidiasis, Cryptosporidiosis, Herpes Zoster, Pneumocystis Carinii Pneumonia (PCP), Cryptococcal Meningitis, Primary prophylaxis for opportunistic infections

1 INTRODUCTION

AIDS was first recognized in the United States in the summer of 1981. In 1983, human immunodeficiency virus (HIV) was isolated from a patient with lymphadenopathy, and by 1984 it was demonstrated clearly to be the causative agent of AIDS.

According to UNAIDS 2016, 36.7 million (30.8- 42.9 million) people were estimated to be living with HIV globally. Approximately 2.1 million new infections occurred in 2016 worldwide and approximately 1.1 million people died of AIDS-related illnesses. Currently, there are 17025900 patients on antiretroviral treatment globally.

India has a low HIV prevalence of 0.22 %. The country's epidemic is concentrated among high-risk groups and is heterogeneously distributed with wide geographic variations in the vulnerabilities that drive the epidemic. Even with this low prevalence, in terms of absolute numbers, India has the third highest burden of HIV in the world with an estimated 2.14 million people living with HIV, 87,000 estimated new infections and 69,000 AIDS-related deaths annually.

Opportunistic Infections and their Management

An opportunistic infection is a disease caused by a microbial agent in the presence of a compromised host immune system.

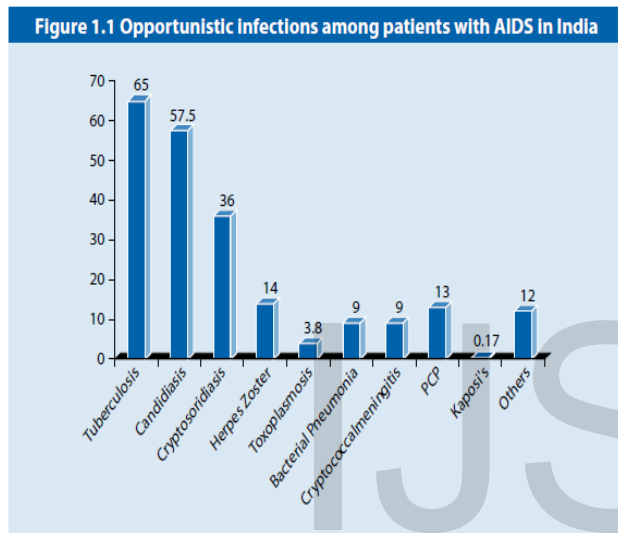
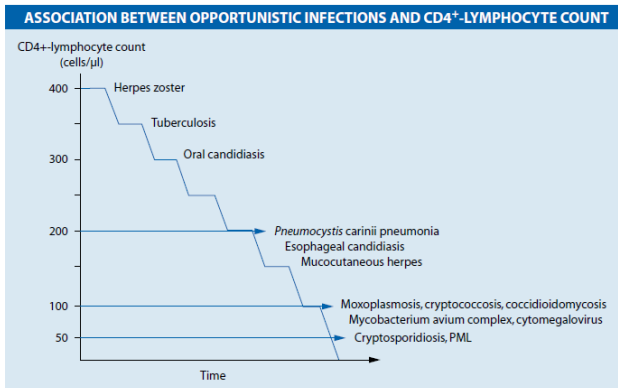
Acquired immunology syndrome (AIDS) is defined as the occurrence of life threatening opportunistic infection, malignancies, neurological diseases and other specific illnesses in patients with HIV infection and CD4 counts <200 cells/mm³.

Table 1.1. HIV-related infections most frequently encountered in India				
Bacterial	Viral	Fungal	Parasitic	Other illnesses
Tuberculosis	Herpes simplex virus infection	Candidiasis	Cryptosporidiosis	AIDS dementia complex
Bacterial respiratory infections	Oral hairy leukoplakia	Cryptococcosis	Microsporidiosis	Invasive cervical cancer
	Varicella zoster virus disease	Pneumocystis jiroveci pneumonia	Isosporiasis	Non-hodgkin lymphoma
Salmonella infection	Cytomegalovirus disease	Penicilliosis	Giardiasis	
	Human papillomavirus infections		Stongyloides	
			Toxoplasmosis	

* Rare infections include those due to Bartonella henselae, Rhodococcus equi, atypical mycobacterioses and human herpesvirus (HHV)-8 infections

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2 BODY



2.1 TUBERCULOSIS

Chronic, contagious disease completely curable .Can cause death, if left untreated

Symptoms of Pulmonary TB:

- Chronic cough; Loss of weigh; Mild fever; Sweating at night
- Pain in chest or upper back Loss of appetite

Symptoms of Extra Pulmonary TB:

- Lymph nodes - swelling and fever; Intestines -pain in the abdomen, diarrhea, and fever; Liver - jaundice and fever; Brain - meningitis with symptoms of confusion

Treatment:

- Anti-Tuberculosis Treatment Usually for 6-8 months

Prevention:

Seek early medical attention for cough of any duration. Cover mouth while coughing. Spit into a closed container containing disinfectant. Avoid unventilated space. Evaluate close contacts for TB.BCG vaccination for Newborns

2.2 Oral pharyngeal candidiasis:

Usually first indication of immune impairment. Starts with small white or yellow patches on the mouth cavity and on the tongue. Extends to Esophagus resulting in difficulty in swallowing.

Prevention of Oral Candidiasis:-

Ensure: Oral Hygiene; Nutritious diet; adequate rest.

Avoid: Sweets; Alcohol; Smoking

2.3 CRYPTOSPORIDIOSIS

- Caused by micro-organism that lives in human intestine.
- Highly infectious. Transmitted through water, food, animal-to-human and human-to-human contact.
- Causes watery diarrhea and malabsorption.

Prevention:

Drink bottled/boiled water/Zeoline solution/ filtered water.

Peel and thoroughly wash fruits and vegetables Wash hands properly with soap before eating.

2.4 HERPES ZOSTER

Painful rash with blisters on the face, scalp, neck, chest, back, stomach or limbs. Caused by virus Develops if previously infected with chicken pox.

Pneumonia:

- Most common symptoms; Cough, fever, shortness of breath, chest pain, increased production of sputum.
- Seek medical treatment if: – Sudden high fever with chills; Severe chest pain or discomfort; Sputum color changes to grey, yellow or green; Sputum has blood in it;

Severe difficulty in breathing

2.5 PNEUMOCYSTIS CARINII PNEUMONIA (PCP)

- Occurs in advanced stage HIV.
- Gradual onset, with dry cough, progressive shortness of breath not in proportion to the cough, with or without fever.
- Immediately refer to seek medical help. Death, if treatment is not started early.

2.6 CRYPTOCOCCAL MENINGITIS

- Caused by an infective organism which reaches the brain via the blood. Slowly progressive and ultimately fatal, if left untreated.
- Headache which gradually increases over time and become continuous. Stiff neck Double vision; Fever; Nausea/ Vomiting; altered consciousness

3 PRIMARY PROPHYLAXIS FOR OPPORTUNISTIC INFECTIONS

Primary prophylaxis needs to be started in all HIV-infected patients when they come under stage III WHO classification, or stage II when the CD4 count is <200 cells/mm³.

It may be discontinued when the CD4 cell count is >200 cells/mm³ for six months. It is given lifelong if the CD4 cell count is not estimated.

4 CONCLUSION

In total 28 agents causes most of the opportunistic infection. Health-care workers nursing HIV patients should be acknowledge with the characteristic, symptom, patterns of these Opportunistic infection to be able to apply effective treatment.

Early recognition of the HIV status and periodic interaction between health care workers and those infected are needed for providing appropriate preventive advice and for timely recognition and treatment of Opportunistic infections.

Timely use of chemo- and immune prophylaxis to prevent various Opportunistic infections favourably impacts the survival of HIV-infected people and is necessary to maximize benefits from the ART roll-out.

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