

Common HIV-related Complications

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Integrated Treatment Centre
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Preface

"To Know More" is a set of posters on health education that produced by Integrated Treatment Centre periodically. The aims are to provide health education to people with HIV to help them understand more about HIV and how they can live with it.

"Common HIV-related Complications" is a booklet excerpt of "To Know More" on opportunistic infections. This booklet will help the clients to learn more about preventing the more serious opportunistic infections and maintaining health.

HIV attacks and destroys a person's natural immunity against infectious diseases. People with HIV/AIDS may get serious illness that healthy people do not get. These serious illnesses are called opportunistic infections. When a person with HIV has one of these diseases, we say the person has AIDS. They can catch the infections in gastrointestinal tract, lungs, liver, brain and the nervous system.

Opportunistic infections are the most common complications in HIV/AIDS patients. They are often amenable to treatment though prolonged or maintenance therapy is usually required after the acute phase. Early diagnosis and treatment of complications can reduce morbidity and mortality.

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A. Opportunistic Infections

The most common infections are:

Brain

- Toxoplasmosis (toxoplasma)
- Cryptococcal Meningitis

Eyes

- Cytomegalovirus (CMV) retinitis

Lungs

- Pneumocystis pneumonia (PCP)
- Tuberculosis (TB)

Gut

- Cytomegalovirus (CMV)
- Cryptosporidiosis

Skin

- Herpes Simplex
- Shingles
- Molluscum Contagiosum

Systemic

- Mycobacterium avium intracellulare
- Penicillium marneffeii

Mouth and Throat

- Candidiasis (thrush)

Fighting infections:

1. Regular check-ups, take medicines as directed
2. Take medicines to prevent some infections, e.g. PCP
3. Increase your body resistance against disease, e.g. healthy life style
4. Report symptoms of infection early: diarrhea, cough, tiredness, fever, weight loss, blurred vision

Infections Affecting the Brain

Toxoplasmosis (toxoplasma)
Cryptococcal Meningitis

Causes:

Toxoplasma Gondii and cryptococcus are germs that cause the infections. If you don't have a normal immune system, they can make you severely ill.

Symptoms:

Headache, nausea and vomiting, weakness, difficult to concentrate, fever, coma

Treatment:

- By restoring your immunity
- By treating the infection

How to help yourself:

- Get regular check-up
- Tell your doctor or nurse if you notice any symptoms
- Keep your immune system as strong as you can
- Stay away from cat excreta
- Prevent eating raw or undercooked meat
- Take the medicines regularly

CMV Retinitis

An opportunistic infection, usually occurs when CD4 falls below 100, especially more likely when CD4 is 50 or below. If left untreated, usually results in blindness.

Symptoms:

- Blurred vision
- Floaters or 'black holes'
- Loss of visual field even blindness.

Prevention:

1. You should observe closely for any symptoms and use the 'Amsler Grid' to check your eyesight regularly. If the 'grid' is distorted or partly missing, inform your doctor as soon as possible.
2. Regular follow up and examination by eye specialist. Early treatment can save your eyesight!

Treatment:

Mainly by injection of drug into the bloodstream. The treatment of CMV retinitis usually requires prolonged therapy after acute treatment.

Pneumocystis Pneumonia

I must be a BATMAN.

No, you are not a Batman. In fact, if your doctor tells you that you have a bat's wing shadow in your lungs, that's not a good news. It means that you have PCP, short for Pneumocystis pneumonia. This is an opportunistic infection affecting the lungs, usually occurring in those with a CD4 count of less than 200. Though tiny, the PCP germ can cause a great deal of damage, and can even kill, if not attacked early.

Symptoms:

Early stage : fever, dry cough, fatigue, may not be obvious

Later stage : shortness of breath on exertion, weight loss

Advanced stage : shortness of breath even at rest

To fight PCP:

Take medicine to prevent PCP - start when $CD4 < 200$

Options:

- Septrin orally daily or 3 times a week (be sure to tell the doctor if you are G6PD deficient)
- Pentamidine inhalation once every 4 weeks.

Be alert to the symptoms of PCP, seek medical advice if they occur

Tuberculosis (TB)

Tuberculosis (TB) is common in Hong Kong. Lungs are most commonly affected, but other parts of body such as lymph nodes, kidneys, gut and brain can be involved. People with lowered immunity have a greater risk of getting TB.

Symptoms:

- May not be obvious
- Fever, tiredness, weight loss
- Cough, may have blood in sputum
- Night sweats
- Lumps in the neck when the glands are affected by TB

Treatment:

- Prolonged treatment is needed with multiple drugs
- Adherence to anti-TB drugs is important to avoid treatment failure due to drug resistance

Prevention:

- Healthy life style
- Increase immunity by taking antiretroviral drugs if indicated

Infections Affecting the Gut

Cytomegalovirus (CMV)

Cryptosporidiosis

Cause:

Cytomegalovirus & Cryptosporidium parvum are the virus and parasite that cause the infection

Symptoms:

Abdominal cramp, fever, watery/bloody diarrhoea, nausea & vomiting, loss of appetite

Treatment:

- By restoring your immunity
- By treating the infection

How to help yourself:

- Keep immune system as strong as possible
- Regular follow up
- Tell your doctor or nurse if you have any of the above symptoms
- Avoid fatty food, dairy product
- Handwashing after using bathroom & before food handling
- Boil water for at least 1 minute before drinking

Common Viral Diseases of skin

Herpes Simplex

Name of virus: Herpes Simplex Virus-type 1

Mode of transmission:

- Direct skin contact
- Droplet from infected areas

Clinical features:

- Small blisters with tingling sensation
- Usually around the mouth
- Recurrence is common

Herpes Zoster (Shingles)

Name of virus: Varicella - zoster Virus

Varicella - zoster virus:

- The causative virus of chickenpox
- Shingles is caused by the reactivation of the latent varicella - zoster virus in immunocompromised host

Clinical features:

- Cluster of painful, vesicles and pustules eruptions
- Along segmental nerves on one side of the body
- Rarely recurs

Molluscum Contagiosum

Name of virus: Pox Virus

Mode of transmission:

- Via direct skin contact

Clinical features:

- Rounded pearl-coloured papule with glistening appearance and punctum
- Neither painful nor itchy
- Commonly found on trunk in children and genital area in adult

Warts

Name of virus: Human Papilloma Virus

Mode of transmission:

- Through direct contact with broken skin

Clinical features:

- Single or multiple, pointed or cauliflower like projections
- Neither painful nor itchy
- Usually on hands, feet and face

Prevention:

- Avoid direct contact with infected areas or affected individuals
- Maintain good health to strengthen the immunity

What is Mycobacterium Avium

Intracellulare (MAI)?

Mycobacterium avium intracellulare is a disseminated mycobacterial infection in an advanced AIDS patients.

Mycobacterium avium intracellulare(MAI) is also called mycobacterium avium complex(MAC). Mycobacterium avium intracellulare is ubiquitous in the environment, commonly found in soil, water and food stuff. It usually occurs in HIV- infected patient with a CD4 count less than 100/ul.

Symptoms:

- Fever
- Malaise
- Weight loss
- Diarrhoea
- Abdominal pain
- Anaemia
- Lymphadenopathy
- Hepatosplenomegaly

Treatment:

- Alleviate symptoms
- Life-long therapy with medicines
- Keep immune system as strong as possible

How to help yourself:

- Regular follow up
- Report any symptoms to your doctor
- Take the medicines as your doctor prescribes
- Adequate rest and sleep, eat healthy food, regular exercise, no alcohol, no smoking.

Penicillium Marneffeii

Causes:

- Is a fungus that can cause disseminated infection in HIV – infected patients, seen in some places of South-east Asia, but not Western countries.
- Penicillium marneffeii is an AIDS-defining illness in Hong Kong.
- It usually occurs in HIV-infected patient with a CD4 count less than 100/ul.

Symptoms:

- Fever
- Weight loss
- Anaemia
- Lymphadenopathy
- Hepatosplenomegaly
- Skin lesions

Treatment:

Life long maintenance therapy with antifungal drugs, keep immune system as strong as possible.

Prevention:

- Regular follow up
- Report any symptoms to your doctor
- Take medicines as prescribed by doctor
- Adequate rest and sleep, well-balanced diet, regular exercise, no alcohol, no smoking

Oral Candidiasis (Oral Thrush)

The Most Common Opportunistic Infection Affecting Mouth & Throat

Why

- ↓CD4 Count
- Infected by *Candida albicans*

How

- Whitish or creamy plaques in mouth
- May cover the whole tongue
- Can be wiped off to leave a red base
- Feel difficult or painful in swallowing

What to do?

- Consult doctor
- Treat the infection:
 - a). Oral anti-fungal agent
 - b). Topical Nystatin suspension
- Don't take food or drinks which is too hot or spicy
- Restoring your immunity
- Regular check up

B. HIV-Related Malignancies

- Kaposi's Sarcoma
- Lymphoma

Kaposi's Sarcoma

Kaposi's sarcoma is the most common HIV-related malignancy and most frequently involves the skin. Extracutaneous sites include oral cavity, gastrointestinal tract and lung.

Cause:

Patients with a weakened immune system such as the HIV-infected have a higher incidence of Kaposi's sarcoma.

Symptoms:

Typical skin lesions are non-pruritic and painless violaceous (violet-coloured) macules, papules, plaques or nodules. There may be similar lesions on the gum.

Treatment:

By improving immunity, highly active anti-retroviral therapy (HAART) often reverses the growth of Kaposi's Sarcoma. Other treatments include topical therapy, intralesional injection, radiation therapy and chemotherapy.

Lymphoma

Lymphoma is a cancer that originated in the lymphatic cells of the immune system and presents as a solid tumor of lymphoid cells.

Classification:

Hodgkin lymphoma

Non-Hodgkin lymphoma

Cause:

Patients with a weakened immune system such as from HIV infection/ primary immune disorder or from certain drugs or medications also have a higher incidence of lymphoma.

Symptoms:

- Lymphadenopathy
- Fever of unknown origin
- Night sweating
- Pruritis
- Weight loss
- Anorexia
- Dyspnoea
- Fatigue

Treatment:

1. Symptomatic treatment
2. Radiotherapy
3. Chemotherapy

C. Immune Reconstitution

Inflammatory Syndrome (IRIS)

What is IRIS?

When HIV is controlled by antiretroviral therapy the immune system can repair itself. A condition where the immune system begins to recover and as it does, it begins to respond to infections you had earlier with an overwhelming inflammatory response. The syndrome is known as Immune Reconstitution Inflammatory Syndrome, IRIS. The symptoms often resemble an AIDS related illness. It can resolve after a few weeks. In some cases it can become serious or misdiagnosed and treated incorrectly.

Which are the common IRIS?

If antiretroviral therapy is effective, HIV replication is controlled. Your immune system also immediately starts to repair itself. Especially in those with very low CD4 count to start with, this improved defense may aggravate concurrent infections that are already being treated. Alternatively, such infections may have been in incubation, but are now awakened by the improved immune system to cause symptoms. Either way, such occurrence is called IRIS.

Tuberculosis, herpes and fungal infections are the major IRIS.

How do we treat IRIS?

The occurrence of IRIS can be frustrating. Instead of feeling better, you may feel worse. You may also have to undergo a lot of diagnostic tests to rule out other conditions.

However, IRIS is temporary and occurs only in a minority of patients. You do not have to stop antiretroviral treatment. Specific treatment is directed to the nature of the concurrent infections. For severe IRIS, your doctor may also prescribe steroids for you.