

COMMON NONINFECTIOUS CONDITIONS IN HIV



Department of Health
Republic of South Africa

Pericardial disease

A high index of suspicion

Investigations

- Chest X-ray – enlarged cardiac shadow (increased cardiothoracic index)
- ECG – small complexes, tachycardia and diffuse T-wave changes
- Echocardiography – a useful tool that confirms the diagnosis

Myocardial disease

Cardiomyopathy

It is a disease of the heart muscle not associated with the usual classical risk factors like hypertension, diabetes, ischaemic heart disease or other structural heart diseases like valvulopathy.

Myocardial disease

Cardiomyopathy

The aetiology of dilated cardiomyopathy in HIV infection is unknown. Myocarditis is thought to be a possible cause. Other possible causes or contributory factors are:

- Nutritional deficiencies especially of selenium and vitamin B₁, more so in terminal stages of HIV infection
- Drug-induced myocarditis
- Vasculopathies (arteriopathies)
- Autoimmune-mediated heart muscle damage
- Pulmonary hypertension mainly causing right heart disease

Myocardial disease

Cardiomyopathy presentation and management

Presenting symptoms and investigations are similar to those of HIV negative patients

In HIV infected patients, if the dyspnoea is out of proportion to the underlying pulmonary disease, then consider a myocardial disease and investigate accordingly. The degree of severity of the cardiomyopathy is not proportional to the CD4 cell count, but majority of patients with severe cardiomyopathy have CD4 $<200/\text{mm}^3$.

Management of these patients is the same as that of HIV negative patients with heart failure. Rapid onset of cardiac failure with severe left ventricular dysfunction is associated with poor prognosis.

Myocardial disease

Myocarditis

- A common finding at autopsy in HIV infected patients.
- Cause is unknown in most of the cases.
- Opportunistic infections are the common causes of myocarditis, *T. gondii*, *PCP*, *TB*, *Cryptococcus*, *MAC*, *Aspergillus*, Cytomegalovirus, Herpes simplex virus
- HIV itself may damage the myocytes by direct infection or indirectly.
- Lymphocytic myocarditis with marked lymphocytic infiltrate has also been found on histology in several cases.
- Majority of patients with myocarditis are asymptomatic.

Drug-induced myocarditis

- Pentamidine – severe ventricular arrhythmias
- Trimethoprim-Sulfamethoxazole – hypokalaemia and ventricular tachycardia
- Amphotericin B – arrhythmia, hypotension, hypertension
- Cocaine abuse – myocarditis and dilated cardiomyopathy
- Chemotherapy in Kaposi's sarcoma treatment (doxorubicin) – cardiomyopathy
- Zidovudine – myocardial and skeletal muscle mitochondrial changes causing cardiomyopathy

Sensory peripheral neuropathy

Symptoms of peripheral neuropathy

- Pain
- Burning sensation and numbness in toes, feet, calves, fingers
- Can be very debilitating

Clinical features

- Reduced pinprick/vibratory sensation
- Reduced or absent ankle jerks
- Contact hypersensitivity
- Can't stand on toes

Peripheral neuropathy

Causes

- HIV infection *per se*
- Diabetes, alcohol
- B12 deficiency
- INH, metronidazole, dapsona,
- Nucleoside analogue therapy: ddC, ddI, d4T
due to mitochondrial toxicity

Peripheral neuropathy

Therapy

Thiamine 100mg/day

Pyridoxine 50mg/day for patients taking INH

Amytriptiline 10-75mg nocte

Ibuprofen 600-800mg tds

Carbamasepine 200-400 bd

Morphine/fentanyl patch

Sensory peripheral neuropathy

Antiretrovirals

Of all the nucs, stavudine is the drug most likely to cause peripheral neuropathy.

General guideline, when patients on stavudine as part of their first-line treatment develop peripheral neuropathy, the patient is managed symptomatically, and stavudine is discontinued when it significantly influences a patient's quality of life due to the pain.

May still take several months for the pain to improve after the drug has been discontinued. In fact, the pain may first worsen.

Syndrome acute neuropathy and lactic acidosis syndrome.
Acute neuropathy develops, followed by lactic acidosis.

Myopathy

Myopathy is progressive weakness of the muscle, not caused by neurological involvement.

Weakness when getting up from a chair or brushing hair.

It may or may not be accompanied by myalgia.

Sensory exam normal.

Any CD4 count.

The creatinin kinase (CK) must be requested

Electromiogram (EMG) will show irritatable miopathy.

Myopathy

Possible causes include

- HIV
- ARVs e.g.g AZT
- Ols

Treatment includes steroids and intravenous immunoglobulins.

HIV-associated dementia

A spectrum of clinical presentations is grouped under one term.

Early presentations might be mild cognitive dysfunction, followed by motor changes and behavioural changes.

The advanced picture is that of HIV encephalopathy. This is seen in 20-30% of patients with advanced HIV disease.

Dementia causes care givers much stress.

HIV-associated dementia

Early clinical symptoms might include

- Apathy
- Memory loss
- Psychomotor retardation
- Depression
- Withdrawal
- Loss of fine finger movement (e.g. writing)
- Gait instability

Early physical signs on physical examination

- Defective rapid eye movement
 - Rapid limb movement
 - Hyperreflexia
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HIV-associated dementia

Later clinical signs and symptoms include:

- Global loss of cognition
 - Mutism
 - Severe psychomotor retardation
 - Seizures
 - Tremor and other basal ganglia signs
 - Frontal release signs
 - Paraparesis (weakness of certain nerves)
 - Urinary and/or faecal incontinence
 - Dementia
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HIV-associated dementia

Special examinations

- Brain scan would reveal cerebral atrophy.
- The results of cerebrospinal fluid analyses are often non-specific.

Investigations are aimed at ruling out treatable opportunistic infections.

A clinician must be very careful to label a patient as HIV-dementia without full investigation.

HIV-associated dementia

Treatment

AIDS-defining condition and the patient needs to be evaluated for antiretroviral therapy.

A remarkable response can be observed when antiretrovirals are introduced. That is however not predictable, and there are some patients who will show no neurological improvement.

Involve whole palliative care team.

Bell's palsy

Acute onset unilateral weakness of the lower part of the face.

Can also occur in people without HIV, but since it occurs more frequently in people with HIV, it would be appropriate to offer HIV testing to the patient.

Treatment

Prednisone 60mg/day for 5 days.

The quicker the steroids are started, the higher the chances of response.

Need to see a physiotherapist and a speech therapist.

Guillain-Barré syndrome

Inflammatory demyelinating polyneuropathy

Distal motor neuropathy that extends upwards and can involve respiratory muscles and the autonomic nervous system.

Nerve conduction studies shows demyelination.

Disregulation of the immune system and can present as part of seroconversion, but also as late stage disease.

Guillain-Barré syndrome

Early stage disease

Plasmapheresis would be indicated

Ventilation if required. Recovery is slow.

Late stage disease

Palliative care would rather be considered appropriate.

Refer immediately for expert advice.

Seborrhoeic dermatitis

Clinical picture

- Type of excema
- Frequent
- Extent and severity match degree of immunodeficiency
- Affects initially the face, scalp, neck, acxillae and groin
- Red and oozing with yellowish patches

Seborrhoeic dermatitis

Treatment

- Emmolients
- Body: Potent topical steroids
(e.g. 0.1% betamethazone valerate)
- Head: Antidandruff shampoo (e.g. selenium sulphide)
- Face: 1% hydrocortisone cream or lotion
- Decrease the potency of the steroid cream as soon as feasible
- 2% sulphur in aqueous cream (UEA) on the face
- Systemic antibiotics for secondary bacterial infections (e.g. cloxacillin)

Eosinophilic folliculitis/ HIV associated pruritis

Clinical picture

- A group of overlapping disorders.
- Severe itching.
- This is an itching follicular erythematous papular rash
- Usually involves the face, trunk and limbs.
- Pigmentation usually prominent once the lesions cleared.

Diagnosis

- Diagnosis is through a skin biopsy
 - Practical approach is to rather treat empirically and only biopsy if unresponsive to treatment
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Eosinophilic folliculitis/ HIV associated pruritis

Treatment

- Potent topical steroid
 - Sedating antihistamine at night e.g. promethazine 25mg nocté
 - Hydroxyzine (Aterax) 25-50mg nocté
 - Treat secondary skin infections
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Chronic renal insufficiency

HIV-associated nephropathy (HIVAN)

- The commonest glomerular disease and also the most common cause of chronic renal disease in HIV infection.
 - Can occur at any stage of HIV infection. It is however more common with a low CD4 count.
 - Characteristically, the disease presents with:
 - nephrotic range proteinuria in the absence of oedema or hypertension
 - rapidly declining renal function to end stage renal disease in a few weeks to months
 - large kidneys are seen on ultrasound, unlike the usual small kidneys of chronic renal disease
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Chronic renal insufficiency

Diagnosis

In HIV-associated chronic renal disease, a kidney biopsy is necessary to determine the underlying cause of the disease.

Treatment

- HIVAN – anecdotal evidence has shown HAART to be of some benefit in this condition.
- ACE-inhibitors and corticosteroids have been tried with variable results.
- End stage renal disease chronic dialysis has poor prognosis with 50% mortality rate at one year.
- Introduction of HAART has reduced the mortality to about 30%. Limited resources still an obstacle to offering long-term dialysis.