

Clinical Tract

Module on

Non-infectious conditions associated with HIV

LEARNING OUTCOMES FOR COUNSELLORS, DATA CAPTURERS, SOCIAL WORKERS, DIETICIANS AND LABORATORY TECHNICIANS

After completion of this module the learner should be able to:

- Diagnose and treat cardiomyopathy.
- Diagnose and treat peripheral neuropathy.
- Recognise more unusual neurological presentations and know when to refer the patient to the next level of care.

LEARNING OUTCOMES FOR DOCTORS, NURSES AND PHARMACISTS

After completion of this module the learner should be able to:

- Refer a patient to a doctor when presenting with a problem that might be neurological.
- Know the symptoms of peripheral neuropathy

1. INTRODUCTION

This module focuses on non-infectious conditions that are HIV related, are seen more frequently in patients with HIV or in whom HIV aggravates the condition. Treatable conditions, especially conditions where medicine is available on EDL, are covered in more detail. Some conditions that will need referral up in the system are only touched on.

2. DISEASES OF THE HEART IN HIV

The commonest cardiac conditions seen are pericardial disease (most often TB pleural effusion) and dilated cardiomyopathy. Protease inhibitors can, as long-term side effect, disturb the lipid profile, which is one of the contributing factors to ischaemic heart disease.

Dilated cardiomyopathy

Dilated cardiomyopathy is a disease where the muscle of the heart is affected in a patient without hypertension or rheumatic valve disease. HIV may affect the heart muscle, just as it affects other muscles. Another possible cause for cardiomyopathy is thiamine deficiency.

Clinical findings

The patient may be asymptomatic, although heart sonar might show left ventricular dysfunction. The symptoms and signs are similar to patients without HIV. Tiredness and shortness of breath might be the first symptoms. Left heart failure with a low blood pressure can be found. Right heart failure, as diagnosed by an increased jugular venous pressure (JVP), liver engorgement and peripheral oedema, is a late sign. Arrhythmias (irregular heart beat) are common.

Special investigations

Chest X-ray would show a large heart shadow with pulmonary congestion. Further work-up would include an electrocardiogram (ECG) and an echocardiogram or heart sonar.

Treatment

Medical treatment would be:

- Angiotensin-converting enzyme inhibitor (ACE inhibitor) initiated at a low dosage and titrated up.
- Diuretics
- Digoxin

3. NEUROLOGICAL DISEASE IN HIV

Neurological disease due to HIV can appear at any stage of HIV disease and can affect the central nervous system (CNS), the peripheral nervous system or the muscles. Some of the opportunistic infections cause meningitis or mass lesions in the brain. Some of the antiretrovirals can cause neurological disease.

Peripheral neuropathy

Peripheral neuropathy can be very debilitating for a patient. It can affect the sensory and/or motoric nerves in a hand and sock distribution. Mostly it presents as a sensory peripheral neuropathy. The patient may volunteer numbness or a burning sensation at the bottom of the feet or a feeling of pins and needles. In more advanced cases the patient may have difficulty in walking.

Symptoms of peripheral neuropathy

- Pain
- Burning sensation and numbness in toes, feet, calves, fingers

Physical examination

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

Causes

- HIV
- Diabetes, alcohol
- Vitamin B12 deficiency
- Isoniazid, metronidazole, dapsone,
- Nucleoside analogue therapy: stavudine, didanosine and zalcitabine

HIV is only one of the causes of peripheral neuropathy. Other possible causes should also be covered in the history of the patient.

Treatment

- Thiamine 100mg/day
- Pyridoxine 50mg/day for patients taking isoniazid
- Amitriptyline 10-75mg nocté
- Ibuprofen 600-800mg tds
- Carbamazepine 200-400 bd
- Morphine/fentanyl patch

There are two components to the treatment

- Relieving the acute pain
- Long-term management

Initial short-term treatment is a non-steroidal anti-inflammatory for the first week or two. Simultaneously amitriptyline is started, starting at a low dose of 10mg in the evening, then increasing gradually to maximum dosage. The side effects of oversleeping the next morning and dry mouth are better tolerated by gradually increasing the dosage of amitriptyline. On rare occasions it might be necessary to add morphine to the treatment. The morphine is then used as adjuvant to the other treatment.

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.

Clinical presentations might include

- Psychomotor retardation
- Loss of fine finger movement (e.g. writing)
- Tremor and other basal ganglia signs
- Paraparesis (weakness of certain nerves)
- Urinary and/or faecal incontinence
- 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.

Treatment

HIV-associated dementia is an 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. The whole palliative care team need to be involved early. Care of this type of patient is also covered in the Module on Palliative Care.

Bell's palsy

The patient presents with acute onset unilateral weakness of the lower part of the face. This condition 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 is prednisone 60mg/day for 5 days. The quicker the steroids are started, the higher the chances of response. These patients might need to see a physiotherapist and a speech therapist.

Guillain-Barré syndrome or inflammatory demyelinating polyneuropathy

The clinical picture is that of a distal motor neuropathy that extends upwards and can involve respiratory muscles and the autonomic nervous system. Nerve conduction studies show demyelination.

This occurs due to dysregulation of the immune system and can present as part of seroconversion, but also as late stage disease.

If a patient presents with this clinical picture in early stage disease, then plasmapheresis would be indicated, as well as ventilation if required. Recovery is slow. If this would occur as part of late stage disease, palliative care would rather be considered appropriate.

Cases with Guillain-Barré Syndrome need to be referred immediately for expert advice.

Myopathy

Myopathy is progressive weakness of the muscle, not caused by neurological involvement. It may or may not be accompanied by myalgia (muscle pain). The creatinine kinase (CK) must be requested and followed by an electromyogram (EMG) if elevated. These patients would require referral to a tertiary center.

Possible causes include

Myopathy (weakness of the muscles) can be caused by

- HIV
- Antiretrovirals (e.g. zidovudine)
- Opportunistic infections

Treatment includes steroids and intravenous immunoglobulins.

Polyradiculopathy

This occurs in advanced HIV. The most common cause is cytomegalovirus (CMV) infection. The clinical picture is that of a flaccid paresis and incontinence. The clinical picture mimics that of myelopathy.