

## 13. OCULAR MANIFESTATIONS

Ocular manifestations of HIV infection are serious conditions as many of these occur at the time of severe immunosuppression and often lead to blindness. The diagnosis of some ocular infections is difficult to make and expertise and laboratory tests are necessary. It is important to keep in mind that all persons presenting with failing vision and loss of vision should be referred for specialist opinion.

### 13.1 Cytomegalovirus retinitis

Cytomegalovirus (CMV) infection occurs commonly in the general population. The virus is a herpes virus that can remain latent in the body for many years after initial infection. In immunosuppressed patients viral replication may occur and a number of clinical manifestations, such as, retinitis, pneumonitis, oesophagitis, meningoencephalitis, colitis and retinitis may occur. CMV retinitis leads to visual problems and blindness. This complication usually occurs with advanced immunosuppression and usually patients with CMV retinitis have CD4+ lymphocyte counts of less than 100 cells/mm<sup>3</sup>.

#### 13.1.1 Diagnosis

The diagnosis of CMV retinitis is usually made clinically on the finding of yellowish white areas of retinal necrosis and oedema that follow a vascular distribution. There may be haemorrhagic areas in the retina (salad cream and tomato sauce appearance), and severe posterior and mild anterior uveitis. The diagnosis may be confirmed by identifying CMV DNA in vitreous biopsies, aqueous humour aspirates, or endorectal biopsies.

#### 12.1.2 Management

##### **Non-drug related treatment:**

All patients need counseling and psychological support. Family support should also be provided. Nutritional deficiencies should be corrected and the patient advised on good nutritional and healthy life styles.

**Drug treatment:**

Treatment of CMV retinitis						
Drug	Codes		Adult dose	Route	Frequency	Duration
Ganciclovir	A	V	5mg/kg	IV	BID	14 – 21 days
THEN						
Ganciclovir	A	V	1.5 to 2g	PO	TID	Long term
OR						
Ganciclovir	A	V	4.5g to 6g	PO	OD	Long term
OR						
Foscarnet	A	E	90mg/kg	IV	BID	14 – 21 days
THEN						
Foscarnet	A	E	120mg/kg	IV	OD	Long term

**NOTES:**

1. Patients receiving cidofovir should also receive probenecid 2g PO 3 hours before the infusion and 1g PO at 2 hours and at 8 hours after the infusion
2. Intravitreal implants of ganciclovir may be inserted and have been found to be efficacious
3. For intra-ocular inflammation topical steroid (e.g., neodexone or sofradex eye drops and atropine eye drops may be used
4. Antiretroviral therapy should be initiated/continued

**Nursing care requirements**

1. Nutritional advice and food security
2. Mobility training if blind.

**Counseling**

All patients undergoing HIV testing should receive pre- and post-test counseling.

**Post admission care / discharge plan**

1. Arrange for long term treatment with ganciclovir or foscarnet
2. Need anti-retroviral drugs
3. Regular Ophthalmic follow-up
4. Early detection and treatment of other opportunistic infections.

**Social Services Support**

Patients should be encouraged to join AIDS support organisations as they may require long term social, educational and financial assistance. Social support for mobility training for visually impaired persons is necessary. Financial support to purchase drugs and medicines will be necessary.

**13.2 Herpes Zoster Ophthalmicus****12.2.1 Diagnosis**

The diagnosis of herpes zoster ophthalmicus is made after taking a history and carrying out a clinical examination. The finding of painful vesiculobullous dermatitis following the distribution of the ophthalmic branch of the trigeminal nerve is highly suggestive of the diagnosis. Fever, malaise and headache may also occur. Ocular involvement usually occurs when the nasociliary branch of the trigeminal nerve is affected. No specific tests are routinely available for confirming the clinical diagnosis. Herpes zoster occurs as a result of reactivation of latent infection with the varicella-zoster virus. The condition occurs more commonly and is more extensive and persistent in immunosuppressed patients. It is therefore advisable to perform baseline tests such as blood count, electrolyte, glucose, creatinine and HIV antibody test in all patients.

**13.2.2 Management****Non-drug related treatment**

All patients need supportive therapy including advice on good nutrition and preventing transmission of infection to household contacts.

**Counseling**

All patients undergoing HIV testing should receive pre- and post-test counseling.

Treatment of Herpes zoster ophthalmicus						
Drug	Codes		Adult dose	Route	Frequency	Duration
Acyclovir	A	V	800mg	PO	Five times a day	7 days
OR						
Famciclovir	A	E	500mg	PO	TID	7 days

**NOTES:**

1. The antivirals recommended are effective only if administered within 5 days of onset of symptoms
2. For pain control indomethacin, 25mg PO TID may be given
3. For the prevention of post-herpetic neuralgia amitriptyline, 25mg PO TID may be given
4. For intra-ocular inflammation topical steroid (e.g., neodexone or sofradex eye drops and atropine eye drops may be used
5. Antiretroviral therapy should be initiated/continued.

**Nursing Care Requirements**

1. Wound care with topical capsaicin 0.25% or
2. Wound care with topical calamine or
3. Wound care with topical povidone iodine
4. General nursing care.
5. Isolation during acute phase of illness.

**Post Admission Care and Discharge Plan**

1. Long term analgesia and/or amitriptyline to treat post-herpetic neuralgia should be given.
2. Patients should have ophthalmic follow-up as they may develop ocular and adnexial involvement and other complications that need to be treated.
3. Early detection and treatment of other opportunistic infections.

**Social Services Support**

Patients should be encouraged to join AIDS support organisations as they may require long term social, educational and financial assistance.

### 13.3 Kaposi's sarcoma

Kaposi's sarcoma (KS) is aetiologically linked to the human herpes virus type 8 (HHV8 or KSHV). This cancer is found more commonly in immunosuppressed individuals and with the onset of the epidemic of HIV infection this tumour is the commonest cancer encountered in Zimbabwe.

#### 13.3.1 Diagnosis

Lesions are painless purple-brown papules or nodules found on skin; when they appear on the mucous membranes lesions are reddish-blue vascular papules. They are commonly found on the buccal mucosa and the conjunctiva. The diagnosis should always be confirmed by histologic examination of biopsied tumour tissue. Patients should also be tested for HIV infection and where possible for HHV8 DNA.

#### 13.3.2 Management

##### **Counseling**

All patients undergoing HIV testing should receive pre- and post-test counseling.

##### **Non-drug related treatment**

1. All patients need supportive therapy including advice on good nutrition.
2. Visually impaired persons may require additional support and care.
3. Localised lesions may be surgically excised or removed by cryotherapy
4. The tumour responds to radiotherapy

##### **Drug related treatment**

Localised lesions should be treated by excision, cryotherapy or radiotherapy. Intralesional vinblastine may reduce the size of individual lesions. Most patients with mucosal KS have disseminated disease and hence will require combination cytotoxic chemotherapy with etoposide, daunorubicin, vincristine and bleomycin.

##### **Nursing Care Requirements**

Supportive role and ensuring treatment compliance and regular follow up attendance. General nursing care and support for patient with cancer.

**Post Admission Care and Discharge Plan**

Long-term follow-up by ophthalmologist / oncologist to monitor progress.  
Early detection and treatment of other opportunistic infections.

**Social Services Support**

Patients should be encouraged to join AIDS support organisations as they may require long-term social, educational and financial assistance.

**13.4 Ocular Surface Squamous Neoplasias**

A strong association has been noted between HIV infection and ocular surface squamous neoplasia. There has been a marked increase in the incidence of this cancer over the last 10 years in Zimbabwe. The exact aetiology is not known but it has been suggested that the cancer may be associated with human papilloma virus(HPV) infection.

**13.4.1 Diagnosis**

Ocular surface squamous neoplasia appear as persistent, progressively enlarging tumours on the conjunctiva that lead to the eventual erosion of the cornea. Lesions are highly vascular, painful and irritating. The diagnosis should be confirmed by histologic examination of tumour tissue. Conjunctival cytology may be useful in identifying malignant cells.

**13.3.2 Management****Counseling**

All patients undergoing HIV testing should receive pre- and post-test counseling.

**Non-drug related treatment**

All patients need supportive therapy including advice on good nutrition. Visually impaired persons may require additional support and care. Localised lesions may be surgically excised or removed by cryotherapy. The tumour may respond to radiotherapy.

**Drug related treatment**

Neodexone / sofradex eye drops/ ointment should be used initially to treat inflammatory lesions like phlyctenulosis.

Systemic cytotoxic chemotherapy is usually necessary once the diagnosis has been confirmed or in the presence of metastasis.

Analgesics should be given for pain and discomfort.

**Nursing Care Requirements**

Supportive role and ensuring treatment compliance and regular follow up attendance. General nursing care and support for patient with cancer.

**Post Admission Care and Discharge Plan**

Long-term follow-up by ophthalmologist / oncologist to monitor progress.

Early detection and treatment of other opportunistic infections. Patient should be commenced on long-term prophylactic treatment with cotrimoxazole.

**Social Services Support**

Patients should be encouraged to join AIDS support organisations as they may require long term social, educational and financial assistance.

**13.5 Molluscum Contagiosum**

**See Skin chapter- section 21.8.4.**