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SUPPORTING VISION 2020: THE RIGHT TO SIGHT

HIV/AIDS: What is the Impact on Prevention of Blindness Programmes?

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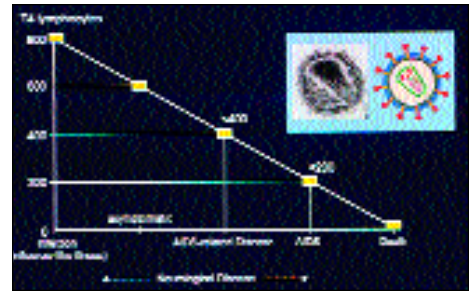
Despite the fact that 95% of the world's 42 million people who have HIV/AIDS live in poor countries, most medical literature on the ocular problems still focuses on problems in the industrialized countries. This is unfortunate, as there are many differences in the way the epidemic manifests itself in the poor countries compared to the industrialized world, including higher mortality rates earlier in the course of the disease. These differences, due to different available treatments for the virus and opportunistic infections, and differences in endemnicity of other opportunistic diseases, were apparent early in the epidemic. In the past few years, the availability of highly active anti-retroviral treatment (HAART) in the industrialized countries has widened the gap even more dramatically. Many formerly busy HIV/AIDS eye clinics in the industrialized countries have few patients now. HAART, however, is still available to only a very small fraction of those who need it, and there is still disproportionately little research on the major ocular manifestations in the poor countries.

No one who lives in sub-Saharan Africa, where nearly 30 million people are infected, can be unaware of the tremendous impact thattheepidemichasonhealthcare.Medical and paediatric wards are overflowing with HIV-related problems. There is a direct and indirect impact on eye care services as well.

The Important Ocular Clinical Manifestations

Herpes Zoster Ophthalmicus

Herpes zoster ophthalmicus (HZO), demonstrated to be a marker for early HIV infection in young Africans over a decade ago, is a dramatic manifestation, although the magnitude of the problem may not be quite as large as was once imagined. A population basedstudy inUgandareportedanincidence



Human Immunodeficiency Virus (HIV) and AIDS

rate of general herpes zoster in HIV infected people of 35.6/1000 person-years, but only 4.25% of this was HZO.[1] This would result in 40–60 cases per year in a severely affected urban area such as Blantyre, Malawi, which is consistent with the records and the experience of ophthalmologists there.

Kaposi's Sarcoma and Squamous Cell Carcinoma

The association of HIV with certain malignancies, such as Kaposi's sarcoma and squamous cell carcinoma of the conjunctiva, has been well documented. Studies in Tanzania and Uganda demonstrated 5 and 6 - fold increases, respectively, in the number of conjunctival squamous cell tumours during the 1990s. An article in this Issue describes the problem in urban Zimbabwe. Review of the operating theatre records at the Queen Elizabeth Central Hospital (QECH) in Blantyre, Malawi reveals a 10–fold increase in the number of 'conjunctival tumours' removed there between 1989 and 2002. Alarmingly, the number of exenterations, primarily for squamous cell carcinoma, has also gradually increased, from an average of one or two per year in the 1980s to ten in 2002.We do not know, however, whether these exenterations are required for recurrences, especially aggressive tumours, or simply long neglected tumours. There has been a general impression that these lesions maybeunusuallyaggressiveinHIVinfected Africans, but a recent study, using specific tumour markers challenges this view.[2] The epidemiological picture remains unclear.

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In This Issue…

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CMV Retinitis

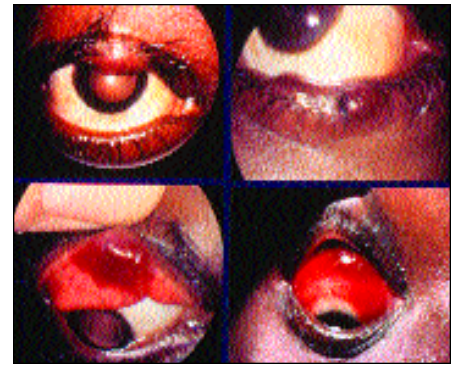
Regarding cytomegalovirus retinitis (CMVR), the most well known manifestation in industrialized countries, existing data indicate that the point prevalence of this in sub–Saharan Africa is low. This confirms the clinical impression of ophthalmologists in public clinics that CMVR does not constitute a major burden in the region. A number of HIV/AIDS patients probably die before CMV retinitis develops, while others may develop it near the end of life and are too sick to present to eye clinics. It has been suggested that more widespread availability of anti-retrovirals in Africa could change the picture.[3] HAART, used properly, would be likely to decrease the incidence of all ocular manifestations. If it were misused, however, or if less expensive regimens of one or two drugs were used, therapy could prolong lives, but not reconstitute the immune system, potentially resulting in more patients with low CD4 counts living with HIV, and a rise in the prevalence of CMV retinitis.

Eventhissituation,alarmingasitsounds, would be unlikely to change the magnitude of blindness in sub–Saharan Africa. Cataract, childhood blindness, trachoma, and glaucoma will still be responsible for most of the blind-person years. This does not mean, however, that the HIV/AIDS epidemic is not affecting eye care services – it does in several ways.

Implications for Eye Care Services

The burden created by HIV–related eye disease in a clinic or hospital varies depending on how cases are managed.For example, the fastest, cheapest way to treat conjunctival growths is simple excision by nurses or clinical officers without a microscope. Is this adequate to treat most squamous cell lesions? Alternatives, such as more highly trained surgeons, microsurgery, histopathologic verification of disease free margins, and adjunctive therapy (e.g., cryo, mitomycin, or 5FU drops) will increase the time and cost of treatment. Is this necessary to avoid a 'significant' number of recurrences? We do not know the cost/benefit of this, but we may need to consider it. At the QECH in Malawi, one morning theatre list each week is devoted to removal (by simple excision) of conjunctival tumours. In 2002, these accounted for 14% of the surgical cases done at the base hospital.

In the same way, we should consider the most effective way of treating patients with HZO, in situations where acyclovir is not available. Although not large in number, their suffering is great, their care can be time consuming and, without antiviral drugs, the visual outcome is frequently poor.



Examples of Kaposi's sarcoma
Photos: Philippe Kestelyn

Finally, a tragic impact of the HIV/AIDS epidemic on eye care is the fact that eye care workers themselves are succumbing to it. Again, there are no statistics compiled, but many large eye clinics or hospitals have lost clinical officers, nurses or doctors to AIDS. Given the shortage of trained personnel, a single death can have a major impact on a programme.

A cause for optimism in the HIV/AIDS story in Africa is that the anti-HIV drugs which have transformed and prolonged the lives of HIV sufferers in the West are increasingly available in Africa. A few large companies have begun to offer the drugs to workers.

There are some NGO and government programmes that offer drugs to patients, although the availability of drugs to patients through these programmes varies in different countries. The WHO made a recent public commitment to try to increase the number of sub-Saharan Africans on HAART – to 3 million by 2005. This, however, still represents only 10% of those infected now, so the majority may remain untreated for some time.

The final toll of the epidemic on eye care services and prevention of blindness work remains to be seen. We would do well to gather more information and consider these issues in planning our programmes.

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Herpes Zoster Ophthalmicus in HIV/AIDS

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Herpes zoster is a common infection caused by the human herpes virus 3, the same virus that causes chickenpox. It is a member of herpes viridae, the same family as the herpes simplex virus, Epstein-Barr virus, and cytomegalovirus. Herpes zoster ophthalmicus occurs when a latent varicella zoster virus in the trigeminal ganglia involving the ophthalmic division of the nerve is reactivated. Of the three divisions of the fifth cranial nerve, the ophthalmic is involved 20 times more frequently than the other divisions.

Risk Factors

Risk factors include the following:

- Decreasing immuno-competence
- Increasing age.

Immune suppression may be due to the human immunovirus (HIV) infection, malignancy, systemic lupus erythematosus, and the use of immunosuppressive agents. HIV positive patients have a 15–25 times greater prevalence of zoster compared to the general population.[1] In the immunocompromised patient, the dermatitis and ocular inflammatory disease are more prolonged and it is more difficult to prevent complications. Herpes zoster ophthalmicus may be the initial clinical manifestation of HIV infection.

The highest rise in prevalence, due to age, is in the fifth decade of life.

Extraocular Manifestations of Herpes Zoster Ophthalmicus

Infection and inflammation secondary to zoster can affect virtually all adnexal, ocular and orbital tissues.

Prodromal Stage

- Flu-like illness with fatigue, malaise, and low grade fever and chills that last up to one week before the rash over the forehead appears
- Pain: usually non-painful actions, like putting on a hat and combing hair may be very painful in about 60% of patients.

Rash

- Erythematous macules appear along the involved dermatome
- Over several days these progress into papules and vesicles, and later pustules, which rupture and crust, taking several weeks to heal
- HIV positive patients may have a generalized vesicular rash and become very ill one to two weeks after the onset of the disease, resulting in very severe visual impairment.

Ocular Manifestations of Herpes Zoster Ophthalmicus

The skin manifestations of herpes zoster ophthalmicus strictly 'observes' the midline with involvement of one or more branches of the ophthalmic division of the trigeminal nerve, namely the supraorbital, lacrimal,and nasociliary branches.Because the nasociliary branch innervates the globe, the most serious ocular involvement develops if this branch is affected. Classically, involvement of the tip of the nose (Hutchinson's sign) has been thought to be a clinical predictor of ocular involvement.[2] It is important to note that patients with a positive Hutchinson's sign have twice the incidence of ocular involvement, but one third of patients without the sign develop ocular manifestations.

Eyelid

The eyelids are commonly involved in herpes zoster ophthalmicus.

- The majority of patients will have vesicular lesions on the eyelids that resolve with minimal scarring
- Patients may develop blepharitis. This can lead to secondary bacterial infection, eyelid scarring, marginal notching, loss of eyelashes, trichiasis and cicatricial entropion. Scarring and occlusion of the lacrimal puncta or canaliculi may occur
- Ptosis, secondary to oedema and inflammation may also occur.

Conjunctiva

Conjunctivitis is one of the most common complications of herpes zoster ophthalmicus. The conjunctiva is often injected and oedematous. This generally lasts for only one week. Secondary infection with *Staphylococcus aureus* may develop thereafter.

Sclera

Episcleritis or scleritis associated with herpes zoster may be either nodular or diffuse and can persist for months.

Cornea

Corneal complications occur in approximately 65% of cases with herpes zoster ophthalmicus.[3] This can result in significant visual loss.

Symptoms are pain, photosensitivity and poor vision.

The clinical features of corneal disease in herpes zoster ophthalmicus may be due to:

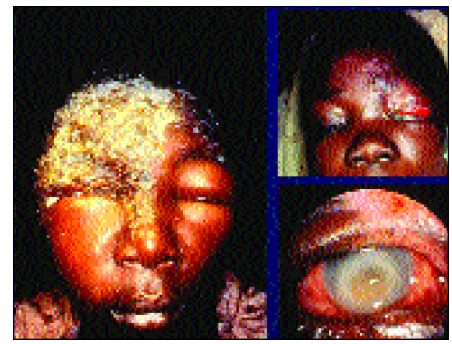
- Direct viral infection
- Antigen – antibody reactions
- Delayed cell-mediated hypersensitivity reactions
- Neurotrophic damage.

***Epithelial keratitis*:** The earliest manifestation of corneal involvement is punctate epithelial keratitis. Multiple, focal swollen lesions stain with fluorescein or rose bengal. These lesions contain live virus and may either resolve or progress into dendrites, presenting as early as one or two days after the initial rash, while dendrites often present after four to six days but can appear many weeks later. The dendrites appear as elevated plaques and consist of swollen epithelial cells. They form branching or 'medusa-like' patterns and have tapered ends in contrast to herpes simplex virus dendrites, which often have terminal bulbs. These dendrites also stain with fluorescein and rose bengal dyes. These epithelial lesions can lead to anterior stromal corneal infiltrates.

***Stromal keratitis*:** This is an immune reaction to viral glycoprotein antigens deposited during the acute attack and possibly during late sub-clinical migration of the virus from the ganglion. Chronic stromal keratitis can lead to vascularization, corneal opacification, keratopathy, corneal thinning and astigmatism.

Uveal Tract

Anterior uveitis occurs frequently with herpes zoster ophthalmicus. The inflammation is generally mild and transient, frequently causing a mild elevation of intraocular



HZO showing the demarcation affecting one side of the face (picture on left). HZO causing upper eyelid cicatricial ectropion (upper right). HZO with severe corneal involvement (bottom right)

Photos: Susan Lewallen
Philippe Kestelyn (bottom right)

Table 1: Suggested Management Protocol

Infection	Treatment
'Shingles'	Acyclovir (Zovirax) 800mg orally five times daily for 7 to 10 days
Skin	Apply cool compresses
Blepharitis/ Conjunctivitis	Topical lubrication. Topical antibiotic.
Epithelial keratitis	Debridement or none
Stromal keratitis	Topical steroids
Neurotrophic keratitis	Topical lubrication Topical antibiotics Tissue adhesives and protective contact lenses to prevent perforation
Uveitis	Topical steroids Oral steroids Oral acyclovir
Scleritis/ Episcleritis	Topical non-steroidal anti-inflammatory agents and/or steroids
Acute retinal necrosis/ Progressive outer retinal necrosis	IV acyclovir (1,500 mg per m^2 per day divided into three doses) for 7 to 10 days, followed by oral acyclovir (800 mg orally five times daily) for 14 weeks

pressure. Without timely and appropriate treatment the course of the disease may be prolonged and can lead to glaucoma and cataract.

Retina

The retinitis of herpes zoster ophthalmicus is often associated with anterior uveitis. It presents as necrotizing retinitis with haemorrhages and exudates, posterior vascular occlusions and optic neuritis.These lesions begin from the retinal periphery. The vision deteriorates rapidly as the disease progresses.

Post–Herpetic Neuralgia (PHN) and Post –Herpetic Itch (PHI)

Pain and itching, late in the disease, are both acute and more common in HZO than in any other form of zoster. PHN is described as constant boring pain, sudden transient sharp pain, or pain elicited by usually non-painful stimuli. The mechanisms of PHN and PHI are not well understood but appear to be related to loss of peripheral sensory neurons.

Complications

1. Corneal neovascularization and scarring resulting in poor vision.
2. Neurotrophic ulcer with perforation.
3. Secondary bacterial or fungal infection.
4. Secondary glaucoma from uveitis or steroid treatment.
5. Necrotizing interstitial keratitis.
6. Post–herpetic neuralgia.
7. Vision loss from optic neuritis or chorioretinitis.

Management of Herpes Zoster Ophthalmicus

Herpes zoster ophthalmicus can be successfully managed by simultaneously combining systemic antivirals and tricyclic antidepressants to inhibit the infectious - inflammatory component and the pain. Antiviral agents may decrease the severity and duration of symptoms, if given early in the course of the illness.

Oral acyclovir therapy for herpes zoster ophthalmicus is found to:

- Reduce viral shedding from vesicular skin lesions
- Decrease systemic dissemination of virus
- Reduce the incidence and severity of the most common ocular complications such as dendritic keratitis, stromal keratitis and uveitis.[4]

Antibiotics should be used if secondary bacterial infection of the vesicles has occurred. Unfortunately, oral acyclovir has little effect on the incidence, severity, or duration of post-herpetic neuralgia.

Steroid eye drops may be helpful for HZO, but they can be disastrous for herpes simplex keratitis (Table 1). If secondary impetigo is present, a suitable anti-staphylococcal antibiotic should be given, and the patient should be considered for hospital admission because of facial cellulitis. If a patient complains of severe pain at any point at or beyond the appearance of crusted vesicles, assume that post-herpetic neuralgia has developed. It requires aggressive management. Narcotic analgesics may be used. Capsaicin cream may be applied topically to the affected areas six hourly.

Tricyclic antidepressants (e.g., amitriptyline) are often helpful in post-herpetic neuralgia; they should be initiated at low doses and increased as appropriate.

Conclusion

Patients and the general population should be instructed regarding the importance of early presentation and careful compliance in treatment as well as the importance of regular follow-up. One obstacle that confronts eye care workers in the developing world is the cost of the drugs which affects compliance, as the patients are poor.

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Squamous Cell Carcinoma in HIV/AIDS

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Epidemiology

Since the 1980s, the number of patients presenting with squamous cell carcinoma of the conjunctiva has been increasing exponentially. [1,2] In ophthalmic outpatient clinics in Harare, at least two of every one hundred patients have squamous cell carcinoma. The patients vary in age from eighteen to sixty years with the majority between twenty and forty years. Both males and females are affected. Often, the squamous cell carcinoma of the conjunctiva may be the only manifestation in an otherwise healthy looking adult. A large number of ill-looking patients may also present with the conjunctival carcinoma, in addition to other stigmata of immunosuppression, such as dryness and increased pigmentation of the skin of the face. Some patients have molluscum contagiosum lesions on the lids and forehead.

Pathogenesis

The exact cause of squamous cell carcinoma is not known, but the human papilloma virus (HPV) has been implicated. Polymerase chain reaction tests have turned positive in patients with squamous cell carcinoma. It is suggested that the immuno-supression results in co-infection with the papilloma virus. The immuno-suppression causes reduction in the effectiveness of the immune surveillance system resulting in growth of the tumour.

Clinical Presentation

Symptoms and Signs

The majority of patients complain of a growth in the eye. They may describe a whitish growth which is progressively increasing in size. Often patients experience a foreign body or pricking sensation. In some cases they complain of a red, painful eye. Patients with recurrent squamous cell carcinoma invariably complain of a deep and severe pain around the eye. The pain can be so severe that the patients request enucleation despite good vision. The type of carcinoma seen in our patients is very aggressive.[3]

Examination

On examination, these patients have a growth located on the nasal conjunctiva near the limbus or mid-way between the limbus and the caruncle. Typically, the lesion is gelatinous, greyish white on the surface of what appears to be a pingueculum or pterygium. The growths vary in size from 2-3mm, and cover the nasal one third of the cornea. The bigger lesions appear necrotic. While most of these lesions slough off the cornea, some are embedded to underlying sclera. Recurrent tumours tend to be diffuse. We often see tumours invading 2-3mm into the cornea, from 7 o'clock to 10 o'clock. The lateral conjunctiva can be affected, but this is rare.

Differential Diagnosis

- Pingueculum
- Pterygium
- Foreign body
- Carcinoma in situ
- Kaposi's sarcoma
- Lymphoma

In the initial stages, the carcinoma can easily be confused with pingueculum or pterygium. Where HIV is prevalent, it is advised to excise completely suspicious lesions, for biopsy. Carcinoma in situ invariably progresses to squamous cell carcinoma of the conjunctiva. Kaposi's sarcoma tends to be darker and highly vascularized. In our population these lesions are more likely to be located on the lids, as opposed to the conjunctiva. Lymphoma of the conjunctiva is less common but is typically salmon pink in colour. We perform excision biopsy in all these lesions.

Diagnosis

This is determined by excision biopsy.

Pathology

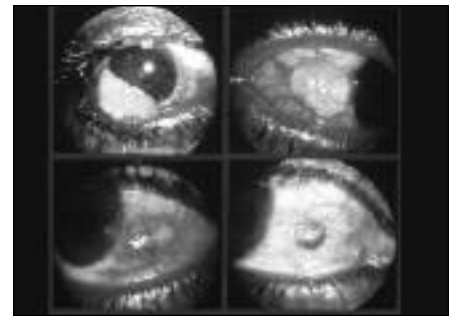
Histology of these growths typically shows the following features:

- Squamous cell proliferation
- Dyskeratosis
- Acanthosis
- Stromal invasion
- Concentric collection of epithelial and spindle cells.

Management

We strongly recommend excision of any obvious or suspicious lesions after the first visit. Some of these lesions can grow very rapidly. It is important to excise with a margin of at least 2mm of normal looking conjunctiva, as well as remove as much of the base of the tumour as possible. In our experience, most recurrences appear to arise from inadequate removal of the tumour embedded in sclera.

Enucleation is performed routinely in our clinics for recurrent squamous cell carcinoma. This has to be performed on patients who have had several excision biopsies.The bulk of our rural patients are often lost to follow–up, only to present with recurrent tumour which has extensively spread to the fornices.



Examples of squamous cell carcinoma of the conjunctiva

Photos: Philippe Kestelyn

For those patients where tumour has spread to the fornices and lids, exenteration is the procedure of choice.

Radiotherapy does not appear to be of any help in the management of these patients. Despite local application of radiotherapy to the tumour bed, post-operatively, we have still experienced recurrences.

Chemotherapy, in the form of mitomycin application to the tumour bed, has been suggested to reduce recurrence.We are awaiting our initial results. (See 'Abstracts' on page 44 – Editor).

Conclusion

In sub-Saharan Africa, squamous cell carcinoma of the conjunctiva has become a highly significant and blinding condition. Recurrences of the tumour following surgery are becoming more frequent. Tumour development in one eye, following enucleation of the fellow eye for recurrent carcinoma, presents an emotionally difficult challenge for both patient and surgeon. We can only hope, in the short term, that increasing availability of anti-retroviral drugs may reduce the incidence of this disease.

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Managing CMV Retinitis in the Developing World

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Introduction

Cytomegalovirus retinitis (CMVR) is a major opportunistic complication of the acquired immune deficiency syndrome (AIDS). In the developed world, prior to the availability of highly active anti-retroviral therapy (HAART), it was estimated that about 30% of patients with AIDS would develop CMVR during their lifetime. However, since the introduction of HAART, the incidence of CMVR has declined significantly in these countries. By far the most valuable intervention in the treatment of CMVR is the treatment of the underlying HIV disease with HAART. HAART is unfortunately not widely available in the developing world and it is here that the AIDS epidemic is continuing to grow. Sub-Saharan Africa leads the world with 25.3 million infected individuals with South-east Asia (5.8 million cases) the next area of concern. In South Africa alone there are an estimated 5 million people living with HIV/AIDS, most of whom are not receiving HAART.

It has been considered that the rate of CMVR is lower in Africa than in the United States, possibly related to the fact that, lacking effective therapy, patients in Africa may not live long enough to develop the very low CD4 cell counts (<50/cu.mm) that are associated with the development of CMV disease.[1,2] Over the last 4 years we have, however, witnessed a steady increase in the number of patients presenting to our clinic with CMVR. This increase may be due partly to better management of tuberculosis and prophylaxis for *Pneumocystis carinii* pneumonia (PCP), which has meant longer survival of patients and lower CD4 cell counts, and partly to a greater awareness of the disease with earlier referral.

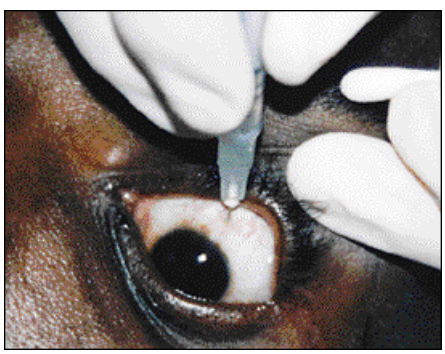


Fig.1: The injection is given 4mm posterior to the limbus

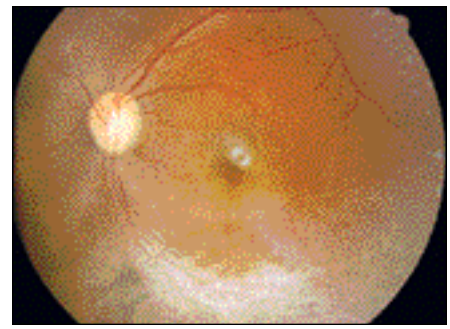
Photo: Linda Visser

In 1996, when the first few cases of CMVR started presenting to our clinics, we were faced with a dilemma. How could we afford to treat this disease when numbers started to increase? The first few patients were treated with systemic ganciclovir (GCV), but the results were poor and the cost very high. The only option was repeated intravitreal injections of GCV as, theoretically, up to 250 patients could be treated with a single vial of GCV. The aim was preservation of vision, and patients understood that they would not be protected against systemic CMV disease or involvement of the other eye at a later stage. We have been treating all our CMVR patients in this manner since then. All their case notes were recently reviewed.

Patients and Methods

All patients presenting to our clinics with CMVR since April 1996 were treated with intravitreal GCV injections. Two patients were given oral GCV for a short period, but returned to intravitreal injections when both showed progression of their disease. The reasons for non-treatment were (a) patient refusal, (b) no potential for vision and (c) less than 3 clock hours of disease in zone III only (anterior to the equator).This last group was carefully watched and treatment initiated if the disease progressed into zone II, or extended beyond 3 clock hours in zone III, as the risk of retinal detachment significantly increases if more than 25% of the peripheral retina is involved.

The procedure was performed in the outpatient clinic after written, informed consent was obtained. The GCV was reconstituted to a concentration of 25mg/ml using normal saline solution. A drop of local anaesthetic was instilled into the lower fornix, after which the eye was rinsed with a 5% povidone-iodine solution. A cotton-tipped applicator, soaked in local anaesthetic, was then held to the conjunctiva at the site of injection for 1 to 2 minutes. Using an insulin (1ml) syringe with a 30G needle, 2mg (0.08ml) of the GCV solution was injected into the vitreous, 4 mm posterior to the limbus superiorly (Figure 1). For the first 2 to 3 weeks, the patients returned bi-weekly for injections and, thereafter, on a weekly basis. (Further information is given in the 'boxed' appendix at the end of this article).



CMV retinitis

Photo: Linda Visser

Results

Between April 1996 and April 2003, 90 patients (123 eyes) were treated. A total of 1566 injections were given – 175 between April 1996 and December 1999 and 1391 between January 2000 and April 2003, clearly illustrating the rapid increase in numbers of patients presenting with CMVR over the last 3 years. All the patients were HIV positive. Only 15 patients were on anti-retroviral therapy at some point during their treatment (16.6%) and 30 patients (33.3%) were on cotrimoxazole prophylaxis for PCP. Tuberculosis was the most common other opportunistic infection in our patients, with 51 patients (56.6%) either concomitantly or previously infected. Patient demographics are shown in Figure 2.

The highest incidence was seen in African females between the ages of 20 and 39 years. Most patients (75%) had bilateral disease at presentation. Of the 22 patients who presented with unilateral disease, only 2 (9%) developed CMVR in the contralateral eye after treatment had been initiated. To our knowledge, no patient developed systemic CMV disease.

Using only those eyes that had received 6 or more injections, the presenting visual acuity (VA) was compared to the final noted VA. The VA improved in 42 eyes (51%), remained unchanged in a further 12 (15%) and deteriorated in 28 (34%). In those eyes where the VA deteriorated, 23% lost 3 or fewer lines and only 11% lost 4 or more lines.

Progression, which is defined as the movement of disease by 750 microns over a 750 micron front or the development of a new lesion, did not occur when patients attended regularly for their injections. It was, however, seen in 10 patients:

- 4 patients had missed more than 3 consecutive injections due to illness

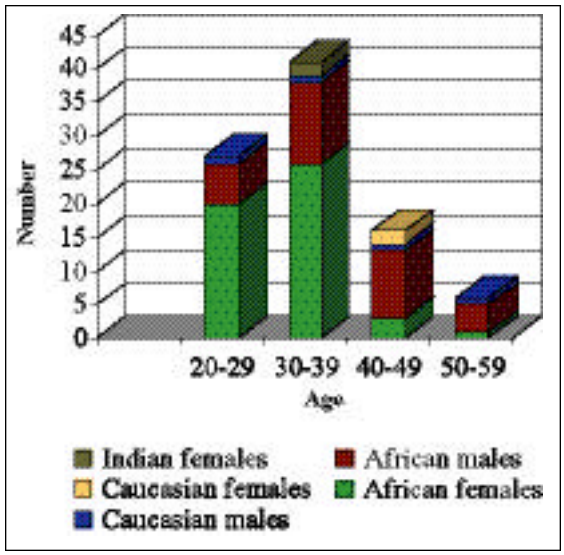


Fig. 2: Patient demographics

- 4 patients had been put on fortnightly injections and progressed after an average of 8 weeks
- 2 patients progressed while on oral treatment only.

Complications

1. Five vitreous haemorrhages, 3 of which were insignificant, cleared spontaneously within 2 weeks and were likely to have been the direct result of the injection. The other 2 haemorrhages were more severe, but occurred in patients who had retinal new vessels. One diabetic patient, who had new vessels at the disc had to have pan-retinal photocoagulation. The vessels regressed, the haemorrhage cleared spontaneously and did not recur after further injections. The other patient had peripheral new vessels following chorioretinitis/retinal vasculitis of unknown cause (though TB was suspected). As the haemorrhage was dense, the patient had a vitrectomy and sector retinal photocoagulation.
2. There were 6 cataracts in 5 patients, 4 of whom were over 45 years of age and were on HAART and thus had chronic uveitis. The other cataract was found in the patient who had had a vitrectomy for vitreous haemorrhage. None were caused by direct injury to the lens during injection.
3. One patient sustained a small hyphaema due to an iris root injury when she jerked her head away just as the injection was about to be given – it was her first injection.The hyphaema cleared within a day and she has been much more compliant since then.
4. As mentioned, 4 patients who were on HAART developed chronic uveitis - possibly related to immune recovery.
5. There were 3 retinal detachments (RDs), but all occurred within 3 weeks of presentation in patients with more than 50% of the retina involved (high risk for RD). No RDs were seen once the retina started to scar down.
6. Sadly, we had 4 cases of endophthalmitis, 3 of which occurred on the same day.

Discussion

CMVR is increasing in South Africa, pos-sibly due to better management of patients and prophylaxis for other opportunistic diseases. HAART, which is becoming available to more people, is by far the most valuable weapon in our fight against CMVR. Systemic anti-CMV drugs are very expensive, have many side effects and are generally not as effective as local therapy. The GCV implant is too expensive and fomivirsen is not readily available. Repeated intravitreal injections of GCV have been shown to be very effective, relatively safe and extremely affordable. The only drawback is that it is time-consuming and labour-intensive. Some would argue that local therapy alone does not offer protection against contralateral eye or systemic involvement. However, our figure of 9% subsequent infection compares well with the GCV-FOS trial done in America prior to HAART, which showed a 17% risk of fellow eye disease in patients on either systemic GCV or foscarnet.[3]

A retrospective review of 648 cases of CMVR seen at Johns Hopkins University School of Medicine, Baltimore, showed the one year cumulative incidence of loss of 3, 6 and 10 lines of VA in their patients to be 42%, 30% and 23% respectively.[4] Many of these patients had been on HAART. In our study, 23% of patients lost 3 or fewer lines of VA and only 11 % lost more than 3 lines and very few patients were on HAART. HAART did not seem to make a difference to the visual outcome, but what was of great importance to the patients was the fact that, for those on HAART, GCV injections could be discontinued once immunity was re-established.

If HAART became more readily available and a cheaper GCV implant could be produced for the developing world, our problems might be something of the past. However, until such time we will continue to treat our patients in this manner.

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INTRAVITREAL INJECTION OF GCV

1. Method of Preparation and Injection of GCV:

- One vial of ganciclovir (500mg) is reconstituted with 10 ml normal saline to a concentration of 50mg/ml. This is further diluted with normal saline (1:1) to a concentration of 25mg/ml (2mg/0.08ml).
- The injection is given with the patient lying down
- Fornices are rinsed with povidone-iodine solution
- Topical anaesthetic drops are applied
- A cotton-tipped applicator, soaked in topical anaesthetic, is held to the conjunctiva at the injection site for 1–2 minutes
- The injection is given 4mm behind the limbus superiorly with the patient looking down
- A 1ml syringe with a 30G(0.3x13mm) removable needle is used.

2. Price and Storage:

- One vial of ganciclovir (Cymevene, manufactured by Roche) costs between $20 and $30. We perform approximately 20 injections with 1 vial ($1 per injection), but theoretically 250 injections can be done (8c per injection)
- Depending on the concentration of the ganciclovir, it has been reported to remain stable in a normal saline solution for between 12 hours (at 50mg/ml) and 35 days (at 5mg/ml). At 25mg/ml it seems to be stable for at least 72 hours.
- The manufacturer recommends that diluted solutions be kept refrigerated at 2–8 degrees Celsius and discarded after 24 hours as sterility cannot be guaranteed. We however discard the vial after 72 hours in order to use only 1 vial per week, as patients receive 2 injections per week during induction of treatment (2 weeks).

3. Exclusion Criteria

- No recoverable vision
- Lessthan 3 clockhoursofdiseaseinzoneIII
- No fundal view
- Patients not prepared or able to come for regular injections.

(* External eye disease, e.g., blepharitis is not an exclusion criterium, though this should be treated and the patient carefully watched.)

4. Safeguards and Training:

- The injection is only given by myself or an ophthalmic registrar/medical officer. I do not think that it should be given by someone who does not know the anatomy of the eye well
- I have taught a number of registrars and medical officers how to do the injections. It is fairly simple and anyone who has done any ocular surgery will be able to do it.

Linda Visser

CONTROL OF INFECTION IN OPHTHALMIC PRACTICE

CONSIDERATIONS	RISK REDUCTION PRINCIPLES
PEOPLE	• Consider ALL patients **and** staff a potential infection risk. • Staff **and** patients should wash hands with soap before commencing any examination. • Wash hands with soap before and after every clinical procedure, even if gloves are worn. • Staff **and** patients with any broken skin, however small, must wear an occlusive dressing. • Staff with any known or suspected infection should not have direct patient contact.
ENVIRONMENT	• Wear heavy duty gloves for any cleaning procedures. • Clear up any spillages of blood or other body fluids immediately. Cover with bleach and leave for 15 minutes, wipe with disposable paper tissue or cloth. Wash the surface with a clean cloth, detergent and water. Burn all cleaning tissue and cloths. • Burn or bury soiled materials and other waste. • Soiled linen – soak first, dispose of the water carefully, and boil the linen before (gloved) hand-washing.
EQUIPMENT	• Used needles and other sharps – dispose of immediately into a puncture-resistant container. Make sure plenty are available in all areas where needles are used. • **Never** re-sheath a disposable needle! One-third of needle stick injuries are reported to occur during re-sheathing. • If a needle stick injury occurs – remove the glove and instrument from the surgical field. (See below re: procedure following a needle stick injury). • Applanation tonometer prisms (**tips only**), diagnostic contact lenses, A-scan probes, occluders and pin-holes should be wiped with disposable paper tissue after each use. Store in sodium hypochlorite 1%, in a non- metallic pot, for 10 minutes, rinse in sterile water and dry before re-use. • Slit lamp – chin rest, head rim, handgrips and table top should be washed with detergent and water between each patient examination.
SURGICAL INSTRUMENTS & DECONTAMINATION PROCEDURES	• Loaded needle holders – lie point down on trolley and table tops. • Pass sharp instruments to colleagues with verbal warning and eye contact communication. • Sharp instruments should not project beyond the surface edge. • Ensure surgical instruments are thoroughly cleaned before being passed for sterilization or disinfection. • Choose the appropriate sterilization or disinfection method for the specific instrument. • Emphasize care of instruments and sterilization and disinfection procedures in training programmes.
CLINICAL PRACTICE & SAFETY ISSUES	• Critically review work practices regularly. • Include control of infection policies in training programmes. • Implement and emphasize strict adherence to universal control of infection policies. • Teach correct hand-washing technique and display a written procedure in all relevant areas (see below). • Eye drops and ointments – provide individual containers for each patient. • Eye dressings – following removal, dispose of immediately, by burning. • Eye shields – if removed from a knowingly infected patient, **never** re-use. • Pathological specimens – dispose of needles and blades used to obtain corneal and conjunctival material into 'sharps' container. • Wear rubber boots to protect feet in the operating theatre. Feet are particularly at risk of injury from puncture wounds caused by dropped instruments. **Never** allow sandals to be worn in the operating theatre. • Wear a plastic or rubber apron **under** sterile gowns if large amounts of blood spillage is expected. • Wear eye protection and face masks in the operating theatre. • Wear gloves on both hands for all invasive procedures and when in contact with broken skin, mucous membranes, blood and body fluids.

IN THE EVENT OF A NEEDLE STICK INJURY

- Allow the wound to bleed freely for a few minutes.
- Wash with soap and water.
- Cover with a sterile dressing.
- If known, note the details of the person on whom the needle was used and, if possible, check their HIV status.
- Report the incident to the person-in-charge.
- The injured person should be examined by a medical practitioner and referred for treatment if HIV transmission is a confirmed risk.

HAND-WASHING TECHNIQUE

- Wet hands with clean, preferably running, water.
- Apply soap or cleanser.
- Rub palm to palm.
- Rub back of left hand over right palm.
- Rub back of right hand over left palm.
- Rub palm to palm with fingers interlaced.
- Rub backs of fingers on opposing palms with fingers interlocked.
- Rub around right thumb with left palm.
- Rub around left thumb with right palm.
- Rub around fingers of right hand with palm of left hand.
- Rub around fingers of left hand with palm of right hand.
- Rinse off soap with clean, preferably running water and dry well.

REMEMBER!

Control of infection principles must be applied in each and every situation and not only when infection hosts are known or suspected.

The risk of HIV transmission after a single needle stick injury or broken skin or mucous membrane contact with HIV infected blood, is less than 0.5%.
HIV remains the least likely occupational infection to be transmitted but still causes the most anxiety. Health care workers may become complacent about other serious and more likely risks.

The prion diseases, e.g., Creutzfeld Jakob Disease (CJD), are also giving genuine cause for concern. CJD is resistant to most sterilization methods. The only guaranteed measures to prevent CJD cross-infection is the use of sterile, single-use disposable instruments.

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The Rotary Club Host Project

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A partnership of **Rotary Clubs** and **EyeCare America®**
A public service foundation of the **American Academy of Ophthalmology (AAO)**

The purpose of this partnership is to reduce the rate of avoidable blindness and visual impairment in economically developing nations – by providing international ophthalmologists with opportunities for ophthalmic education that will directly effect the quality of eye care and enhance the training of needed ophthalmic personnel in their country. In addition, the partnership generates the goodwill, learning and lasting relationships among individuals that comes from cross-cultural knowledge and contact.

The success of this partnership is based on the combined strengths of two well-established organizations committed to creating awareness and taking action. Rotary's strength is a worldwide network of individuals committed to the service of others, united in a strong and effective organizational structure. The American Academy of Ophthalmology (AAO) and EyeCare America®'s strengths are in clinical education and the expertise of their members and volunteers. The Host Project provideslearningopportunitiesforcarefully selected ophthalmologists from around the world, and strengthens professional and personal ties between United States' (U.S.) ophthalmologists and their international colleagues.

The guest ophthalmologists are brought to the U.S. for two weeks. The first week is spent in a community, hosted by the sponsoring Rotary Club, where the guest experiences professional, educational, cultural and social activities. Typically, guests learn how ophthalmology is practised in the U.S. by visiting ophthalmology practices, medical centers, or a free clinic. They observe surgeries and engage in discussions with their U.S. colleagues. Some guests have the opportunity to learn how ophthalmology is taught in the U.S. by spending a few days at a university department of ophthalmology and interacting with faculty and students.The guests meet members of the local Rotary Clubs, and talk to them about eye care services in their countries. In addition, many of the guests enjoy home cooked meals around a family dinner table, attend a sporting event, a church service, or cultural and political events.

During the second week, the guests attend the AAO annual meeting. From a wide selection of instruction courses, skill transfer courses and symposia in all areas and sub-specialties of ophthalmology, guests choose the activities that would be of most value to their particular situation and practice. They learn about the latest ophthalmic technology and equipment on the exhibit floor, and make contact with representatives from the ophthalmic industry. In addition, they make contact with their colleagues from around the world and with international eye care service organizations.

A new post-meeting benefit was tried in 2002. Sponsored by Alcon Laboratories, three of the guests were invited to visit Alcon headquarters in Ft. Worth, Texas. Here they participated in an educational program, attended a rodeo and visited a ranch in the company of ophthalmologists from many different nations.

Upon return home, the guest ophthalmologists share what they learned with colleagues. Through participation in the host project, the doctors update their skills, broaden their knowledge and establish relationships. They are enabled to train others for the benefit of patients.

Regional chairpersons of the International Agency for the Prevention of Blindness (IAPB) are contacted and requested to recommend an individual from their region who meets guest selection guidelines. The recommended individuals may then be invited to apply. Occasionally, leaders of other international organizations or national ophthalmic societies may be asked to recommend. Sponsoring Rotary Clubs may select their guest from a small pool of approved candidates from different geographic regions.

Rotary Clubs interested in sponsoring an ophthalmologist may contact Wendy Ovaitt (wovaitt@aao.org). As sponsorship is available for only a few guest ophthalmologists each year, guest application is by invitation only.

Report

Intercontinental Medicare Project in Ethiopia

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Introduction

In 1999, the Rotary Foundation of Rotary International undertook a project which was named the Intercontinental Medicare Project in Ethiopia. Rotary clubs from India, Ethiopia and the USA participated in this unique project which was a resounding success, not just in terms of the number and quality of the operations done, but also in bringing people of India, Ethiopia and the USA closer to each other and so fostering understanding and friendship amongst them.

The matching grant and new opportunities grant project was planned in order to perform 400 introcular lens implant surgeries in Ethiopia (along with polio-corrective and plastic surgeries). In Africa there are about 3 million cataract blind to which 50,000 new cases are added each year. A huge backlog has accumulated in rural areas and low-income urban slums. India faces similar problems. Indian surgeons are trained in performing cataract operations with limited resources and with reasonably good outcome. We are experienced in doing many operations in a short span of time.

Project Funding and Implementation

Funding for this project included the cost of surgery, transport and food for patients in Ethiopia. Materials required for 400 operations, e.g., lenses, sutures, gloves, drugs, syringes and needles were taken from India. Packets of medicines required for the post-operative period of one month were distributed to all patients. The ophthalmic

team included the authors and Rotary volunteers from the USA and India. Pre-operative examination, necessary investigations and selection of patients were done by the ophthalmic surgeons and residents at Menelik II Hospital (Addis Ababa) and GrarBet Hospital (Butajira). Post-operative follow-up and management were also carried out by them. Menelik II is a Government Hospital in Addis Ababa, while GrarBet is a rehabilitation centre in Butajira, a small village about 160 km south of Addis Ababa. Altogether, 444 operations were performed over seven days.

The Patients and Surgery

Tables 1 and 2 give the male/female ratio and age groups of patients presenting for care. Most of the patients had been cataract blind in both eyes for years. A few of them had a dislocated hypermature lens. Nine children had bilateral congenital or developmental cataract and 28 patients had traumatic cataract (Table 3). Paediatric patients were operated on under general anaesthesia.

Planned ECCE with a posterier chamber IOL implant was done in most of the cases (Table 4), except those who were aphakic in one eye for whom simple ECCE was done. In occasional cases of posterior capsule tear, an AC IOL implant was done.

Table 1: Male/Female Ratio (n = 444)

	No.	%
Males	236	53.2
Females	208	46.8
Total	444	100.0

Table 2: Age Groups (n = 421)

Age	< 10 yrs	10–20 yrs	21-40 yrs	41-60 yrs	>60 yrs
No.	11	12	10	162	226
%	2.6	2.9	2.4	38.5	53.7

Table 3: Type of Cataract (n = 408)

	No.	%
Congenital/Developmental	9	2.2
Traumatic	28	6.9
Complicated	26	6.4
Age-related	345	84.6

Table 4: Type of Surgery (n = 427)

Total	ECCE	AC IOL Implant	PC IOL Impant
427	15	15	397
%	3.5	3.5	93.0

Table 5: Associated Presenting Complications (n = 444)

	No.	%
Hypermature cataract	42	9.5
Corneal pathology	37	8.3
Pseudoexfoliation	17	3.8
Dislocated lens	13	2.9
Glaucoma	12	2.7
ARMD (diagnosed)	3	0.7

Table 6: Pre-operative Visual Acuity (n = 412)

	PL	>PL-CF 1m	>CF 1m–3m	>CF 3m-6/36	>6/36
No.	202	166	32	12	0
%	49.0	40.1	7.8	2.9	0

Table 7: Post-operative Visual Acuity ('Unaided') (n = 369)

	No PL	PL	CF1 m - 3m	>CF3 m- 6/60	>6/60 – 6/18	>6/18
No.	3	4	26	216	108	12
%	0.8	1.1	7.1	58.5	29.3	3.3

Table 8: IOL Implant Power in Dioptres (n = 412)

	+ 19	+ 21	+ 22	+ 23	AC IOL Implant + 20
Total	22	200	115	60	15
%	5.3	48.5	27.9	14.6	3.6

Table 9: Post-operative Complications (n=315)

	None	Uveitis	Wound gape	Cortical remnants	PCO	Grey reflex	Endophthalmitis	Hypopyon
No.	254	20	7	14	14	4	2	-
%	80.6	6.4	2.2	4.4	4.4	1.3	0.6	-

Manual irrigation/aspiration with a Simcoe cannula was carried out. In suitable cases, non-phaco, small incision sutureless surgery was used.

All operations were done under operating microscopes. Associated presenting complications are given in Table 5.

Results

Pre-operative and post-operative visual acuities are given in Tables 6 and 7.

The post-operative follow-up examination was done by local ophthalmic surgeons. Immediate post-operative follow-up examination was made for two days and, thereafter, on the 15th and 30th days. Whenever it was necessary, patients were admitted and monitored closely. The majority of the patients had expected results with a satisfactory visual outcome. Most of the patients had between CF 3 metres and 6/36 vision 'unaided' post-operatively and we expected all of them to improve after correction of residual refraction (Table 7). Most patients, in fact, did not return for refraction. Since A-scan biometry was not done pre-operatively, dioptric power was decided arbitrarily in all cases (Table 8). Basic refractive status was not known either.

Incidences of complications such as uveitis (20 patients), cortical remnants (14), posterior capsule opacity (14), wound gaping with uveal prolapse (7), were within acceptable limits. Four patients had suspected posterior segment pathology and a grey reflex was seen even on the operation table. These patients were advised about the uncertain outcome. All of them turned out to be cases of long standing retinal detachments. One patient had endophthamitis in the early post-operative period while one more patient had a similar complication after two months (Table 9).

Conclusion

On the whole, the project proved to be worthwhile and satisfactory. Apart from providing the much needed facility of free IOL implant surgeries of good quality to poor patients, it was a rewarding experience for all the persons involved. Long hours of hard, concentrated work inspired the local ophthalmic surgeons of Ethiopia where camp surgeries on a large scale have not been very common.

☆ ☆ ☆

Effectiveness of a hospital-wide programme to improve compliance with hand hygiene

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And members of the Infection Control Programme

Background: Hand hygiene prevents cross infection in hospitals, but compliance with recommended instructions is commonly poor. We attempted to promote hand hygiene by implementing a hospital-wide programme, with special emphasis on bedside, alcohol-based hand disinfection. We measured nosocomial infections in parallel.

Methods: We monitored the overall compliance with hand hygiene during routine patient care in a teaching hospital in Geneva, Switzerland, before and during implementation of a hand hygiene campaign. Seven hospital-wide observational surveys were done twice yearly from December, 1994, to December, 1997. Secondary outcome measures were nosocomial infection rates, attack rates of methicillin-resistant *Staphylococcus aureus* (MRSA), and consumption of handrub disinfectant.

Findings: We observed more than 20000 opportunities for hand hygiene. Compliance improved progressively from 48% in 1994, to 66% in 1997 ($p<0.001$). Although recourse to hand washing with soap and water remained stable, frequency of hand disinfection substantially increased during the study period ($p<0.001$). This result was unchanged after adjustment for known risk factors of poor adherence. Hand hygiene improved significantly among nurses and nursing assistants, but remained poor among doctors. During the same period, overall nosocomial infection decreased (prevalence of 16.9% in 1994 to 9.9% in 1998; $p=0.04$), MRSA transmission rates decreased (2.16 to 0.93 episodes per 10000 patient-days; $p<0.001$), and the consumption of alcohol-based handrub solution increased from 3.5 to 15.4 L per 1000 patient-days between 1993 and 1998 ($p<0.001$).

Interpretation: The campaign produced a sustained improvement in compliance with hand hygiene, coinciding with a reduction of nosocomial infections and MRSA transmission. The promotion of bedside, antiseptic handrubs largely contributed to the increase in compliance.

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Topical mitomycin-C for partially excised conjunctival squamous cell carcinoma

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Purpose: To evaluate the efficacy of topical mitomycin-C (MMC) for treatment of post-operative residual conjunctival squamous cell carcinoma (SCC).

Design: Retrospective non-comparative case series.

Participants: Five patients, two males and three females, with conjunctival and histologically proven incompletely excised conjunctival SCC.

Methods: Patients were treated with topical MMC. Two to three courses of topical MMC, 0.02% or 0.04%, were applied four times daily for 14 days per course. One month after the final treatment, the scar area with surrounding normal conjunctiva was excised, and histologic evaluation was done.

Main outcome measures: No evidence of malignant cells in excised tissues.

Results: Histologic evaluation of the five specimens showed no malignant cells. Conjunctival scarring with inflammatory response was observed. No regrowth was reported during the follow-up period of 18 to 37 months. The complications of MMC use included mild to moderate conjunctival hyperemia in three patients. All signs and symptoms were resolved after discontinuation of the treatment.

Conclusions: Application of topical MMC is an efficient treatment for residual conjunctival SCC. Longer follow-up is required to confirm these findings.

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Use of mitomycin C in the treatment of corneal conjunctival intraepithelial neoplasia

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Purpose: To evaluate the efficacy of topical mitomycin C as a treatment of corneal conjunctival intraepithelial neoplasia.

Methods: An open prospective analysis of 20 cases of corneal conjunctival intraepithelial neoplasia with recurrent disease (17 patients) or refusing surgery (three patients) were treated with topical mitomycin C. Treatment was with mitomycin C eye drops, either 0.02% or 0.04%, four times daily for 1 week followed by a week off, the cycle then repeated for a second week.

Patients were examined weekly until the lesions were eradicated.

Results: Clinical resolution of disease occurred in 18/20 cases. The mean time to resolution was 4.5 weeks, the mean number of cycles of treatment was two. Average follow up was 13 months with four cases of recurrent disease. These four cases were retreated with complete resolution in two cases. Epithelial toxicity occurred in 10/20 eyes and lid toxicity in two cases. There were no long-term complications on discontinuing mitomycin C.

Conclusions: Mitomycin C is effective in inducing regression of corneal conjunctival intraepithelial neoplasia. Complications are common but self-limiting. An optimal regimen is still to be established.

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Ocular disease in patients with tuberculosis and HIV presenting with fever in Africa

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***Aims*:** To investigate ocular disease in patients with tuberculosis(TB) and HIV in Africa presenting with fever, and to determine if indirect ophthalmoscopy is useful in the diagnosis of mycobacteraemia.

***Methods*:** A prospective study of all adult patients admittedwith fever to a large central hospital in Malawi, Africa. Allrecruited patients had an ophthalmic examination, HIV tests, chest xray, sputum examinations, bacterial and mycobacterial blood cultures, and malaria slide to observe the presence of parasites.

***Results*:** 307 patients were recruited; 109 (36%) had TB, including 53 (17%) with mycobacteraemia; 255 (83%) had HIV and 191 (62%)had AIDS. Of the patients with TB, 102 (94%) had HIV. Choroidalgranulomas were found in four patients, all of whom had AIDS;three (2.8% of those with TB) had disseminated TB with mycobacteraemia, and one had persistent fever but no other evidence of TB. Among the patients with AIDS, 32 (17%) had microangiopathy manifest by cotton wool spots; one (0.5%) had signs of active cytomegalovirus(CMV) retinitis. The presence of microangiopathy was not relatedto TB.

***Conclusions*:** In Malawian patients with TB presenting acutelywith fever, choroidal granulomas were found in 2.8%, and were concurrent with mycobacteraemia and AIDS. Ophthalmoscopy was not a useful aid in the diagnosis of mycobacteraemia. Cytomegalovirus (CMV) retinitis is rarely seen in African AIDS patients. Thismay be the result of mortality early in the disease course,or differences in race, HIV subtype, or comorbidity.

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AIDS related eye disease in Burundi, Africa

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Aims: To determine the prevalence of ocular manifestations in AIDS patients hospitalised in Bujumbura, Burundi, according to theirCD4+ lymphocyte count, serological status for CMV and VZV, andgeneral health status.

Methods: Prospective study of 154consecutive patients who underwent general and ophthalmological examinations, including dilated fundus examination. AIDS was diagnosed on the basis of Bangui criteria and HIV-1 seropositivity. CD4+ lymphocyte counts were determined by the Capcellia method. CMV and VZV antibodies were detected with ELISA methods.

Results: The mean age was 37(SD 9) years and 65% of the patients were male. Active tuberculosis was the most frequent underlying disease(61%). Almost all the patients (99%) were seropositive for CMV and VZV. Among the 115 patients for whom CD4+ lymphocyte counts were available, 86 (75%) had more than 100 cells x10^6/l. Ocular involvement comprised 16 cases of microangiopathy,six of opalescence of the anterior chamber, five of retinal perivasculitis,two of zoster ophthalmicus, two of viral retinitis, and one ofopalescence of the vitreous.

Conclusion: In Africa, the prevalence of ocular involvement in HIV infection is far lower than in Europe and the United States, possiblybecause most African patients die before ocular opportunistic infections occur.

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Penetrating Needle Injury of the Eye Causing Cataract in Children

Peter K Rabiah MD

Purpose: To review the presentation, management, and outcome of children with cataract caused by ocular needle penetration.

Design: Retrospective, non-comparative interventional case series.

Participants: Forty-two children with cataract caused by ocular needle penetration.

Intervention: Cataract surgery.

Main outcome measures: Best-corrected post-operative visual acuity.

Results: Injuries were unintentional and occurred during unsupervised play. The type of needle involved was hypodermic in 24 cases, sewing in 7, and undetermined in 11. Endophthalmitis developed in 14 cases and retinal detachment in 6. Endophthalmitis occurred in 12 cases (50%) of hypodermic needle injury but in no case of sewing needle injury. With a mean post-operative follow-up of 2.3 years, the best-corrected visual acuity was 20/40 or better in 19 cases, 20/50 to 20/80 in 7, 20/100 to counting fingers in 6, light perception in 1, no light perception in 6, and undetermined in 3. Eyes with endophthalmitis and/or retinal detachment had a worse visual prognosis.

Conclusions: Ocular penetration causing cataract occurred in children during unsupervised play with inadequately stored or disposed of hypodermic or sewing needles. Endophthalmitis occurred frequently in injuries caused by hypodermic needles but not in those caused by sewing needles. Visual outcome after management was good in approximately half of the cases especially if endophthalmitis or retinal detachment did not develop.

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Ophthalmology 2003; **110**: 173–176 ❐

The Epidemiology of Eye Disease

Second Edition

Edited by Gordon J Johnson, Darwin C Minassian, Robert A Weale, Shiela K West

As reviewed and advertised in the last Issue of the Journal, this classic text can be obtained from:

International Resource Centre
International Centre for Eye Health
London School of Hygiene and Tropical Medicine, Keppel Street
London, WC1E 7HT, UK

Tel: 00 44 20 7612 7973
E-mail: Sue.Stevens@lshtm.ac.uk

Ordering Information: Copies available at the special developing country rate of **£37/$67 + £3/$5 (surface)** or **£5/$9 (airmail) post and packing**. Payment by credit card or banker's order, drawn on UK or US bank accounts only please.

Please make payment to:
London School of Hygiene & Tropical Medicine

Management Priorities in Eye Care Delivery in Africa

A Course offeredjointly byKilimanjaro Centrefor Community Ophthalmology/Tumaini University (KCCO) and the Lions Aravind Institute of Community Ophthalmology (LAICO) in collaboration with VISION 2020

8th–13th December 2003
Moshi, Tanzania

Target Audience:
Heads and key decision makers of national prevention of blindness programmes (MoH) and directors of NGO supported eye care delivery service programmes.

Course Objective:
To provide an overview and appreciation of management practices that are imperative for improved resource utilization and more efficient delivery of eye care services.

The course will be held in Moshi, Tanzania. The fee for participating in the programme is $US 200. The fee will cover transport to and from Kilimanjaro International Airport, accommodation, all meals and tea breaks during the course, lecture notes, and other course materials. Travel expenses (except between Moshi and Kilimanjaro Airport) are the responsibility of the participants. This course is a VISION 2020 project, implemented by ICEH at the London School of Hygiene and Tropical Medicine on behalf of IAPB, and funded by CBM/SSI and ALCON.

Admission Procedures:
This course is open to all countries on the African continent. Admission is limited to about 15 participants and will be made on a first come basis, subject to meeting the above criteria. The application should be sent to the faculty coordinator (Dr Susan Lewallen), preferably by October 1, 2003. Notification of acceptance will occur by October 20, 2003.

For an application please contact Dr Lewallen at **KCCO@kcmc.ac.tz** (please cc: **Courtright_Lewallen@hotmail.com**) or by post to **KCCO, PO Box 2254, Moshi, Tanzania**

THE ROYAL COLLEGE OF OPHTHALMOLOGISTS

17 Cornwall Terrace, Regent's Park, London NW1 4QE, UK

EXAMINATIONS CALENDAR 2003/2004 (UK and OVERSEAS)

UK Examination Dates

Examination	Applications and Fees Due	Essay and/or MCQ Papers	Clinicals/Orals/OSES+/OSCES+
Part 1 MRCOphth	1 September 2003	13–14 October 2003	None
	9 December 2003	19–20 January 2004	None
	15 March 2004	26–27 April 2004	None
	31 August 2004	11–12 October 2004	None
Part 2 MRCOphth	22 September 2003	3 November 2003	3–7 November 2003
	4 May 2004	14 June 2004	14–18 June 2004
	20 September 2004	1 November 2004	1–5 November 2004
Part 3 MRCOphth*	4 August 2003	15 September 2003	15–19 September 2003
	19 January 2004	1 March 2004	1–5 March 2004
	2 August 2004	13 September 2004	13–17 September 2004
This examination has changed for September 2003: please contact the Examinations Department for further details			
Diploma in Ophthalmology (DRCOphth)	6 October 2003	17 November 2003	17–19 November 2003
	17 May 2004	28 June 2004	28–30 June 2004
	4 October 2004	15 November 2004	15–17 November 2004
From November 2001, there has been no practical refraction section in the Diploma Examination			
India Examination Dates: Aravind Eye Hospital, Madurai, Tamil Nadu, South India			
Provided a minimum of six candidates are booked to sit, the Parts 1, 2 and 3 Membership Examinations are scheduled to be held on the following dates			
Part 1 MRCOphth	1 September 2003	13–14 October 2003	None
Part 2 MRCOphth	1 September 2003	15 October 2003	15–16 October 2003
Part 3 MRCOphth	1 September 2003	16 October 2003	16–17 October 2003
Part 1 MRCOphth	15 March 2004	26–27 April 2004	None
Part 1 MRCOphth	31 August 2004	11–12 October 2004	None
Part 2 MRCOphth	31 August 2004	13 October 2004	13–14 October 2004
Part 3 MRCOphth	31 August 2004	14 October 2004	14–15 October 2004

*** Any changes in any of the above dates will be posted on the website and within application packs**
+ Objective Structured Examination and Objective Structured Clinical Examination

Applications packs can be obtained from: Examinations Department at the above address
Tel: 00 44 (0) 20 7935 0702 (X 212, 211, 210) Fax: 00 44 (0) 20 7487 4674 E-mail: exams@rcophth.ac.uk Visit the College website www.rcophth.ac.uk

A Textbook of Clinical Ophthalmology

Third Edition

Ronald Pitts Crick
Peng Tee Khaw

This revised third edition of *Clinical Ophthalmology* is a compact, well-illustrated text of approximately 650 pages. Ronald Pitts Crick and Peng Khaw are supported in this excellent publication by thirteen consultant ophthalmologists and research fellows whose contributions enhance the broad appeal and relevance of the text to worldwide ophthalmic problems. This third edition has included recent research and practice, successfully realising its stated aim in the sub-title – *A Practical Guide to the Disorders of the Eyes and Their Management.* There are 357 illustrations throughout the text; with colour and black-white photographs, and superb line-drawings where appropriate.

Readers of the *Journal of Community Eye Health* will be encouraged that recognition is given to the great ophthalmic needs in developing countries, including a chapter by Ian Murdoch on *Infections and Infestations of the Eye and Nutritional Deficiencies*.

D D Murray McGavin

Sri Lanka Eye Foundation: Booklets in English, Sinhala & Tamil

Further to the article entitled 'Establishing Lines of Communication' (*J Comm Eye Health* 2002; **15**: 7) which mentions a lack of literature in Sinhala and Tamil on eye conditions, apologies must be made to the **Sri Lanka Eye Foundation (SLEF)** who have produced booklets in **English**, **Sinhala** and **Tamil** entitled '***Know Your Eyes***' and '***Ophthalmology Without Tears: A Problem Solving Manual***'. Both publications offer invaluable information in an easily accessible format and are available free of charge from **Sri Lanka Eye Foundation, General Hospital, Kandy, Sri Lanka**.
Tel: +94 8 2234739.
E-mail: slef@sltnet.lk

Lucy Roberts

WORLD SIGHT DAY: 9 OCTOBER 2003

'Tool Kit Prevents Blindness Worldwide'

This year **World Sight Day** will be celebrated by the launch of a **'Government Tool Kit'** which provides information and guidance on developing, implementing and evaluating VISION 2020 National Prevention of Blindness Plans. This **free interactive CDROM** has been produced in response to the acceptance of the VISION 2020: The Right to Sight Resolution at the 56th World Health Assembly in May 2003.

The 'Tool Kit' will be launched around the world and as a Patron of VISION 2020, Her Royal Highness, the Countess of Wessex, will take part in an event in London on World Sight Day.

World Sight Day 2003 aims to raise awareness of the fact that 80 per cent of blindness is avoidable, and by successfully implementing the VISION 2020 initiative, 100 million people will be prevented from going blind.

With the world's focus on Blindness Prevention, World Sight Day provides an opportunity to secure support from people around the world by encouraging them to '**Sign Up for Sight**'. VISION 2020 aims to collect over 20 million signatures by the year 2020 to show governments and decision makers the degree of international support for investment in tackling avoidable blindness. Please sign our **Declaration of Support** at your local event or online at www.v2020.org
World Sight Day is coordinated by the International Agency for the Prevention of Blindness (IAPB) and the World Health Organization (WHO). It is supported by organizations, including UN agencies, governments, eye care organizations, health professionals, philanthropic institutions and individuals working together in a global partnership – to eliminate avoidable blindness by the year 2020.

For more information about **World Sight Day 2003**, the **WHA Resolution and VISION 2020's work**, please visit **www.v2020.org** (or)
e-mail: **info@v2020.org**

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Many Thanks to Murray; and a Warm Welcome to Victoria

Murray McGavin

Victoria Francis

After working as an ophthalmologist in Afghanistan, first in 1969 and 1970, then from 1975 to 1981, **Dr Murray McGavin** joined the International Centre of Eye Health in 1987 with the aim of creating a Resource Centre that would provide continuing education materials for ophthalmologists and eye workers in developing countries. This goal was realised in 1988 with the first issue of the *Journal of Community Eye Health* and two years later with the establishment of the International Resource Centre. After 15 years, the Resource Centre has grown and helped establish five Regional Resource Centres in Pakistan, India, South Africa, Tanzania and Colombia, and Murray has edited and produced 47 issues of the *Journal of Community Eye Health* which have been freely distributed to eye care professionals in more than 170 countries.

Murray has imbued his work with a lively sense of humour, warm personal qualities and a caring nature, which has endeared him to his team, colleagues, students and Journal correspondents through his years at the Resource Centre. It is, therefore, with thankfulness for his own personal vision of an International Resource Centre, and with appreciation for his dedication to producing a high quality, freely available *Journal of Community Eye Health*, that we say farewell to Murray as he returns to his beloved Scotland. We wish him happiness and fulfilment in his well deserved retirement.

We are very pleased to welcome **Ms Victoria Francis** as the new Editor of the *Journal of Community Eye Health*. Victoria worked first as a lecturer in Professional Communication for medical students in South Africa and then trained further in Health Education in London. She then worked in Zimbabwe before moving to England where in 1987 she joined with Erica Sutter and Allen Foster at ICEH to write '*Hanyane – A Village Struggles for Eye Health'*. Subsequently, Victoria obtained a Masters in Social Research Methods and Statistics and worked on Trachoma in Kenya, co-produced *The Healthy Eyes Activity Book* for school-children, as well as undertaking consultancies and publications relating to broader health issues, including Sexual and Reproductive Health. Victoria's work has always focused on finding ways to bridge the communication gap between medical interventions and the community. It is a great privilege for all of us at ICEH to welcome Victoria as the new Editor of the *Journal of Community Eye Health*.

Allen Foster ❐

SEVENTH GENERAL ASSEMBLY of IAPB – NEW DATES 15–20 February 2004 – Manama, Bahrain

The Seventh General Assembly of the International Agency for the Prevention of Blindness (IAPB), earlier scheduled to be held in September 2003 in Manama, Bahrain, has been postponed due to the recent global events and apprehensions expressed by several peopleabout travel to Bahrain. After discussions with all concerned and further review of the situation, the Assembly will now be held from **15 to 20 February 2004** at the same venue in **Manama, Bahrain**. Further details will be sent out soon. Please note the new dates and also circulate the information among your partners and other associates, and encourage participation.

For further information please contact the IAPB Secretariat at:
International Agency for the Prevention of Blindness
IAPB Secretariat
LV Prasad Eye Institute
LV Prasad Marg, Banjara Hills
Hyderabad 500 034, INDIA

Tel: +91-40-2354 5389/2354 8267 Fax: +91-40-2354 8271
Email: IAPB@lvpei.org (or) **agency@lvpei.org**