



THE OCULAR IMMUNOLOGY  
AND UVEITIS FOUNDATION

*Dedicated to Eye Disease Cure and Education*

## **AIDS and the Eye**

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The ocular manifestations of AIDS revolve primarily around infectious and malignant disease. Prior to the advent of multi-drug "cocktail" therapy for HIV infection, opportunistic infectious disease of the eye was extremely common, and, in fact was a sentinel "marker" for a marked reduction in CD4 cell counts and entry into the final, lethal stages of AIDS.

With the advent of multi-drug anti-HIV therapy, the prevalence of opportunistic AIDS-related eye infectious disease and malignancy has been dramatically reduced. Still, we will occasionally see a patient in whom the onset of an ocular infectious disease is, in fact, the first clinical manifestation of the presence of occult HIV infection. For example, we recently cared for a young man who had had an outbreak of shingles (herpes zoster infection) affecting one eye, and unlike the situation in immunocompetent individuals who sustain such an infection, this patient's problem persisted, resisted all efforts, both medical and surgical to bring an end to the problem, and eventually resulted in a search for an occult explanation for why this person's ocular infectious problem should be so persistent. It was discovered that his CD4 T cell count was quite low, and a recommendation was made to him that HIV antibody and antigen testing be performed. Both tests were positive, enabling the clear establishment of the diagnosis and thereby referral to the appropriate physicians to institute multi-drug therapy for this patient's HIV infection.

Other microbes are also notable "sentinel markers" of HIV infection. These include toxoplasmosis, Candida (fungus), herpes simplex virus, Pneumocystis carinii, cytomegalovirus. It is the latter microbe which used to produce the most profound ocular morbidity in patients with AIDS, producing a bilateral necrotizing retinitis which ultimately blinded many patients prior to their demise. Other microbes, including syphilis and tuberculosis and Cryptococcus and Cryptosporidium and microsporidium are also potential opportunistic pathogens which can express themselves as an eye infection in patients who are immunocompromised secondary to AIDS. The most common malignant problem which may occur in the eye as a consequence of such immunocompromise is kaposi's sarcoma, usually affecting the conjunctiva. Lymphoma and various types of carcinoma may also develop in the eye.

Major advances have occurred in the past decade and a half in both the diagnosis and treatment of patients with HIV infection. The HIV epidemic is still with us, however, and will remain so for the indeterminate future. The most effective strategy for avoiding HIV infection remains celibacy and avoidance of high risk behaviors such as drug abuse, for those individuals who are not sexually active and monogamy with a known, uninfected partner for those who are sexually active. The hope for all of us, of course, is that the quest for development of an effective vaccine, which can be highly protective, will be successful.