Ophthalmological findings in AIDS

A case report

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Summary

Ophthalmological findings in AIDS include retinal cotton-wool spots, retinal haemorrhages, cytomegalo-virus retinitis, conjunctival manifestations of Kaposi's sarcoma, and cranial nerve palsy. About 75% of patients with AIDS have ophthalmological abnormalities. All patients with AIDS, as well as those at high risk who have any ocular symptoms, should have a thorough ophthalmological evaluation. A case study is presented.

Case report

A 37-year-old white man presented during August 1986 with deterioration of vision in both eyes. The patient gave a history of disseminated herpes zoster, contracted during May 1986, which had responded satisfactorily to a course of intravenous acyclovir.

The patient had been treated in the past for syphilis and several episodes of gonorrhoea, as well as genital herpes simplex. He claimed to be bisexual with limited but non-selective homosexual contacts. There was no history of intravenous drug abuse or of receipt of any blood products.

On examination the visual acuity in the right eye was 20/60 (Fig. 1) and in the left eye 20/25 (Fig. 2). A retinal detachment, with numerous small retinal breaks, was discovered in the right eye. The fundus of the left eye appeared normal.

One week later, the vision in the right eye was reduced to light perception only. Examination of the fundus revealed a swollen disc and widespread areas of retinitis and haemorrhage (the 'tomato sauce and salad-dressing' fundus) (Fig. 3). The vision in the left eye had dropped to hand movement.

Laboratory tests revealed a markedly raised erythrocyte sedimentation rate and a significantly raised immunoglobulin A level; the VDRL test was positive, and skin tests showed anergy to common antigens. Investigation of T-cell subsets revealed a reduced helper/suppressor ratio of 0.85. Cytomegalovirus was isolated from a throat swab but not from urine, blood or cerebrospinal fluid. The virus during ophthalmological examination. This transmision may occur by way of the VDL test was positive, and skin tests showed anergy to common antigens. Investigation of T-cell subsets revealed a reduced helper/suppressor ratio of 0.85. Cytomegalovirus was isolated from a throat swab but not from urine, blood or cerebrospinal fluid. The resulting loss of T lymphocytes leaves the patient vulnerable to opportunistic infections. It is postulated that AIDS is transmitted by HIV in blood and possibly other body fluids. Recently this virus has also been isolated from the tears of AIDS patients. The systemic manifestations of AIDS include pneumonia, Kaposi's sarcoma, central nervous system disease (dementia, meningitis, myelopathy, focal lesions and retinitis), gastro-intestinal disease (diarrhoea, oesophagitis and Kaposi's sarcoma of the gut) and lymphoma.

Patients with HIV infection more commonly present with one or more of the various manifestations of the AIDS-related complex (ARC), which include fatigue, lymphadenopathy of more than 3 months' duration, night sweats and loss of more than 10% of total body weight.

The ocular manifestations of AIDS include retinal cotton-wool spots, retinal haemorrhages, CMV retinitis, conjunctival manifestations of Kaposi's sarcoma, and cranial nerve palsy.

According to Freeman et al. about 75% of patients with AIDS have ophthalmological abnormalities, of which cotton-wool spots are the most common. These represent areas of micro-infarction in the nerve fibre layer of the retina with obstruction of axoplasmic flow and the formation of cytoid bodies. The underlying mechanism is poorly understood, but a micro-angiopathy with reduced perfusion, possibly as a result of endothelial damage due to circulating immune complexes, has been implicated.

Patients with CMV retinitis present with visual loss, and examination reveals areas of creamy-white infiltration of the retina, often associated with haemorrhage. CMV causes retinal vasculitis which leads to areas of infarction.

The high frequency of ocular abnormalities in patients with AIDS indicates that all such patients, as well as those at high risk who have any ocular symptoms, should have a thorough ophthalmical evaluation.

The detection of HIV in the tears of AIDS patients has raised important questions regarding the transmissibility of the virus during ophthalmological examination. This transmission may occur by way of the tonometer when measuring intra-ocular pressure, the hands of the examiner or contact lens fitting sets. Contact with the tears and ocular surface is frequent during an eye examination. Although non-sexual contact with body fluids has not been shown to cause AIDS, in the light of the available data careful hand washing or the use of gloves and sterilisation of any equipment that comes into direct contact with the eye is recommended. Contact lens fitting sets should be sterilised between each patient. Fluorescein angiography...
must be performed meticulously and the needle should not come into contact with the skin of the technician or doctor performing this test.

REFERENCES