

Issues on Availability of Anti Retroviral Treatment in Africa: Short Review of the Literature from a Case of Cytomegalovirus Chorioretinitis

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Abstract

The availability of antiretrovirals in rich countries has significantly reduced the incidence of opportunistic infections. In Africa nearly 70% of AIDS patients have no treatment, resulting in the persistence of some opportunistic diseases such as Cytomegalovirus (CMV) chorioretinitis. A 45-years-old known HIV/AIDS patient for 2 years but without treatment had been seen for a bilateral decrease of visual acuity. The clinical appearance was compatible with CMV chorioretinitis. This hypothesis was reinforced by a CD₄ cell count of 28 cells/cm³. With this case we want to show the issues of some HIV-positive patients without anti retroviral treatment in our environment where AIDS is a major endemic.

Keywords: Africa; HIV/AIDS; Anti Retroviral Treatment

Introduction

Cytomegalovirus (CMV) is a virus of the family of *Herpes viridea*. These viruses have a life cycle of three phases. After infection the virus causes a flu-like syndrome that often goes unnoticed. The second phase is the quiescence state, the virus is at rest under the control of the immune system. In the third phase the viral replication restarts. This last phase is the result of an immunosuppression. In case of HIV infection the installation of AIDS is characterized by the emergence of several diseases of varying severity [1]. CMV chorioretinitis is an opportunistic infection in AIDS, usually seen when the CD₄ count is below 50 cells/mm³ [2]. CMV chorioretinitis is now exceptional in rich countries where anti retroviral treatment and better monitoring of HIV patient are well done. In Africa less than 30% of patients are receiving anti retroviral [accessed 10/14/2016: <http://www.unaids.org/en/resources/campaigns/AIDS2016>]. Opportunistic infections are still often a reason for consultation [3,4]. We report a case of CMV chorioretinitis in an untreated AIDS patient.

Case Details

A 45 years old known HIV patient for 2 years, but without treatment, had been seen for a rapid bilateral visual loss and floater lasting for less than a week. The right far visual acuity was 6/10, left was limited to counting fingers at 30 cm. The right and left anterior segment were normal. There was a discrete vitritis on both eyes. On the right retina there were threadlike whitish retinal lesions without vasculitis. On left retina there were two whitish retinal lesions. The smallest was at 6:00 in about four papillary disc diameters from the macula. The largest was located along the superior temporal vascular arcade. Both were surmounted by hemorrhage giving a "ketchup on cheese" appearance (Figure 1).

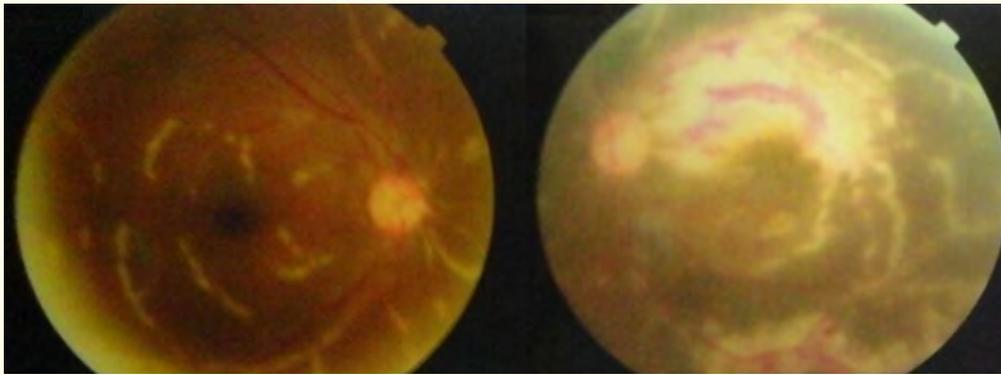


Figure 1: Ketchup on cheese aspect in CMV chorioretinitis (left eye) in an African AIDS patient.

There were some areas of vasculitis around the large lesion. The intraocular pressure was 15 mm Hg on both sides. Fluorescence angiography was normal on right. On left there was a mask effect with some areas of hyperfluorescence around the large lesion (Figure 2).

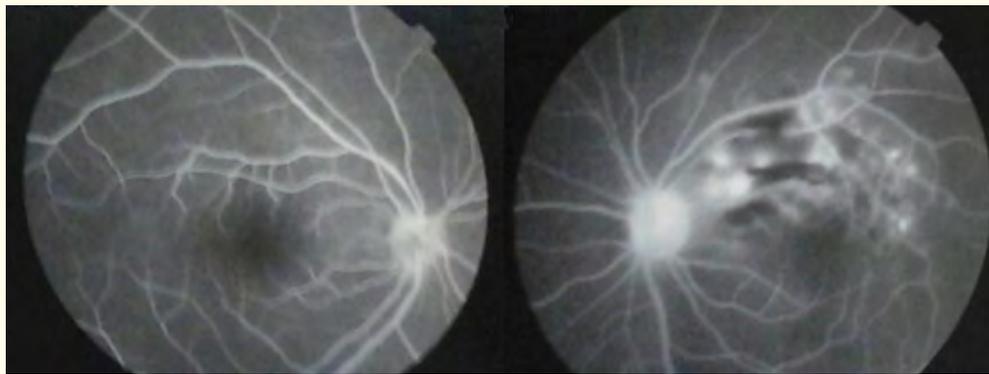


Figure 2: Angiographic aspects, mask effect and some areas of hyperfluorescence in CMV chorioretinitis (left eye).

The patient was in poor condition with a weight loss of over 10%. CD4 count was 28 cells/mm³. The diagnosis of CMV chorioretinitis had been retained on left. Retinal right lesions had been considered as circulating immune complexes in context of HIV/AIDS. The patient was put under anti retroviral treatment.

The intra vitreous injections of Ganciclovir were planned.

Discussion

The diagnosis of CMV chorioretinitis had been retained on the basis of clinical and biological features. The "ketchup on cheese" aspect is pathognomonic of CMV chorioretinopathy [3,4]. Biologically the CD₄ count below 50 cells/mm³ in the context of HIV / AIDS confirms this diagnosis. Some diseases can have a similar semiologic aspect, namely the presence of whitish retinal lesions. These diseases may be inflammatory, bacterial or parasitic.

The first category is dominated by sarcoidosis. In this case there is no bleeding and the strong inflammatory reaction is responsible of a major vitritis. Biological disturbances associated with sarcoidosis are hypercalcaemia, increased blood lysozyme rate and angiotensin II. Histopathological examination (bronchial sampling, lymphadenopathy ...) confirms the diagnosis [5].

In the second category tuberculosis is the main differential diagnosis. Bouchut's tubers are the retinal lesion in case of damages due to Koch's bacilli. These tubers are usually small (less than one papillary disc diameter), multiple (more than ten) and more or less symmetrical (comparable appearance on both sides). Ocular tuberculosis usually occurs in the context of a multi organ involvement. Histopathological examination (bronchial sampling, lymphadenopathy ...), the detection of Mycobacterium tuberculosis DNA by polymerase chain reaction (PCR) in the vitreous confirm the diagnosis [6].

The third category is dominated by two diseases, toxoplasmosis and toxocariasis. In the first parasitosis, the chorioretinal lesion is usually represented by a congenital scar more or less rounded pigmented edges with central atrophy. The Desmond's report greater than 3 and the detection of parasite DNA by PCR in the aqueous humor confirm the diagnosis [7]. In toxocariasis the basic lesion is a vitreous inflammatory granuloma. The presence of dog or cat in the patient's entourage is an essential presumptive argument. The PCR confirm the diagnosis by identifying the parasite DNA in the vitreous [7].

From the description of the first cases of AIDS in Africa CMV chorioretinitis was cited as one of the main opportunistic infections. In rich countries its prevalence has decreased significantly thanks to the systematization of anti retroviral therapy and better patient monitoring [8,9]. The Global Fund initiative to make available treatment for African AIDS patients had raised hopes (accessed 14/10/2016: <http://www.theglobalfund.org/fr/overview/>). More than 10 years later less than 30% of AIDS African patients are under treatment (accessed 14/10/2016: <http://www.unaids.org/en/resources/campaigns/AIDS2016>). With the exception of South Africa which produces locally its anti retroviral drugs, the rest of the Sub Saharan countries depend on imports. Several scandals of mismanagement of funds allocated by the Global Fund have been reported (accessed 14/10/2016: <https://www.poz.com/article/Mali-Global-Fund-21352-8301>). The few patients under anti retroviral sometimes struggle to have their treatment regularly. And even when these treatments are distributed, all the molecules necessary for the formation of different therapeutic levels are not always available.

CMV chorioretinitis represents from 20 to 30% of ocular opportunistic infections in Africa [2-4,8]. This pathology is the witness of a deep immunosuppression. Although we do not have exact figures, the death rate among the AIDS patients suffering from CMV chorioretinitis is high. For survivors sequelae are heavy because of the high percentage of retinal detachment. Life expectancy in the presence of CMV retinitis was six months in the absence of antiretroviral therapy [10,11]. Antiretroviral therapy prevent the occurrence of many opportunistic diseases and thus prolong the life expectancy of many patients on treatment.

In conclusion due to the very small number of African AIDS patients under anti retroviral drugs, some opportunistic infections that are henceforth part of the history of AIDS in rich countries are still relevant in this part of the world.

Conflicts of Interest

There are no conflicts of interest.

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