

Cytomegalovirus (CMV) retinitis is an important problem that is being missed in HIV-positive individuals attending routine clinics in Cambodia.

Is there a need to introduce routine CMV screening ?

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HIV and CMV retinitis

- CMV infection in the retina is the leading cause of AIDS-related blindness in HIV-infected individuals.
- CMV typically occurs in the advanced stages of HIV infection when the CD4+ cell count falls below 50 cells/mm³.
- Blindness is caused by direct destruction of the retina by the infection or by late stage retinal detachment (sometimes years after healing of the primary infection). Besides this, visual loss can also be caused by CMV Immune Recovery Uveitis.
- CMV is typically transmitted during childhood, with near 100% sero-prevalence (IgG antibodies) of CMV if found in the general adult population.
- The cumulative incidence of CMV retinitis for AIDS patients in western countries just before the introduction of HAART was 25-40%.
- Diagnosis of CMV retinitis requires retinal examination using an indirect ophthalmoscope with the pupil fully dilated. This examination needs to be carried out by an experienced clinician.

Study setting

- 2 HIV clinics in Cambodia, in Siem Reap and in Takeo, supported by Médecins Sans Frontières.
- Since 2002, 2497 adult patients have started HAART.
- Between 2003 and 2005, 49% (1186/2416) of all the adult patients that started HAART had a baseline CD4 count below 50 cells/mm³.
- HIV prevalence among adults in Cambodia is 1.9%.



Objective

To conduct an observational study among AIDS patients with a CD4 count below 50 cells/mm, to measure the prevalence of CMV retinitis both for patients with and without symptoms of retinitis.

Methods

- Inclusion:** between January 2004 and September 2005, patients with a low CD4 count were included for the screening. In Siem Reap the screening was conducted during a short period (1 week), in Takeo, patients were routinely referred to a specialised eye clinic.
- Procedures:**
 - All patients were asked for the presence of CMV related eye symptoms: scotoma, floaters or flashing lights.
 - Eye examination was carried out with an indirect ophthalmoscope by an experienced ophthalmologist. The entire retina was examined, the pupil was fully dilated with tropicamide 1% plus neosynephrine 2.5%. CMV retinitis was diagnosed by the characteristic clinical appearance.

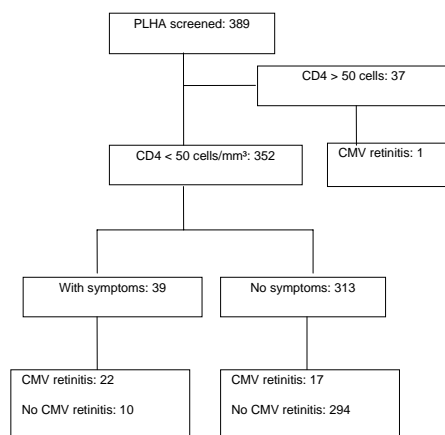
Results

1) Characteristics of the study population

- 389 adult patients were screened, 352 had a CD4 count below 50 cells/mm³, 65 % were male.
- 23% (n=81) had started HAART at the time of the screening. Their median time on HAART was around 4 months at the time of the screening.

2) CMV retinitis

- 39 (11%) of all individuals reported specific eye symptoms (floaters, scotoma or flashing lights).
- 39 individuals were diagnosed with CMV retinitis, the overall prevalence of CMV retinitis among patients with CD4<50 cells/mm³ was 11% (95% CI: 8.4-15.1).
- The prevalence of CMV retinitis among symptomatic patients was 53% (CI95: 38.5-68.3) (21 individuals).
- Prevalence among the asymptomatic patients was 5.7% (CI95: 3.6-8.9) (18 individuals).



Discussion

- CMV retinitis is an important opportunistic infection in severely immune depressed people living with HIV/AIDS (PLHA). We found that 11% of all AIDS patients with a CD4 count below 50 cells/mm³ had CMV retinitis. These data confirm the information from Western centres in the pre-HAART era that designated CMV retinitis as the most important cause of blindness among PLHA.
- Although retinitis is much more prevalent among patients with eye symptoms, still over 5% of the patients without specific symptoms were diagnosed with CMV retinitis. This is a strong argument to conduct systematic screening for CMV retinitis for all PLHA with a low CD4 count.
- Diagnosis requires indirect ophthalmoscopy, carried out by an experienced ophthalmologist. In Western countries this role has been filled by an ophthalmologist, but for many reasons this is often unrealistic in resource-poor settings. The MSF South Africa program is now conducting a pilot study of indirect ophthalmoscopy screening at the primary care level by an HIV/AIDS clinician specifically trained for appropriate physical examination of the eye in patients with HIV/AIDS.
- Treatment of CMV retinitis can prevent blindness. In Cambodia, as in other developing countries, patients are successfully treated with multiple intra-ocular injections of ganciclovir. This practice is very inconvenient and carries risks of irreparable complications. More important, local treatment does nothing to treat extra-ocular CMV disease that often occurs at the same time as the CMV retinitis and may be fatal. For these reasons, oral valganciclovir treatment is essential and must be made affordable and accessible for the overall majority of the patients that need to be treated worldwide.