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Public Health Implications of Cryptococcal Infection among HIV Patients on Antiretroviral Therapy in Hospital in Shika, Nigeria

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Objective

Screening of a targeted group of HIV patients on antiretroviral therapy (ART) for early detection of cryptococcal infection.

Introduction

The incidence of cryptococcosis is increasing with the global emergence of AIDS and this now represents a major life-threatening fungal infection in HIV-AIDS patients (1). Cryptococcal meningitis is a leading cause of death in AIDS patients and contributes substantially to the high early mortality in antiretroviral treatment (ART) programs in low-resource settings (1). Relatively high prevalence of cryptococcal infection has been reported in low-resource country like Nigeria (2). In more affluent countries, the incidence of HIV-associated cryptococcosis has decreased dramatically (3). Cryptococcal infections in HIV/AIDS patients contribute substantially to the high early mortality in antiretroviral treatment (ART) programs in low-resource countries (1).

Methods

A hospital-based surveillance of cryptococcosis was conducted in 177 HIV –positive patients that routinely attended the Nassara Treatment and Care Centre, Ahmadu Bello University Teaching Hospital, Shika, Nigeria (a major reference centre for HIV/AIDS management) from September to November, 2012. Cryptococcal antigen testing was by the use of the Alpha cryptococccal Antigen EIA KIT. For each patient, an informed consent was sort and basic data such as age and gender; occupational, marital and educational status; CD4 counts; antiretroviral therapy (ART) regimen and other therapies were obtained.

Results

Among the 177 patients sampled for the study, the CD4 counts varied between 8 and 1058 cells/mm3. The prevalence of Cryptococcus in HIV patients was 2.23%. The CD4 counts were 67, 173, 232 and 558 for the 4 positive patients respectively. All the cryptococcal positive patients were not diarrheic. There were no other associated clinical symptoms in those positive for Cryptococcus. All the positive samples were also obtained from patients who were on Antiretroviral Therapy (ART) (2.4%). No cryptococcal antigen (0%) was found in the seven patients that were on only antibiotic therapy. Cryptococcus was not statistically associated (Fishers exact value= 1.0000) with the type of medication used by the patients. There was a higher prevalence of cryptococcal antigen in males(2.7%) than females(1.9), but the association was not statistically significant (OR= 1.44; CI on OR: 0.14<OR<14.67). The mean age was 40 years (range; 20-64 years), with prevalence of cryptococcal infection higher (3.5%) in age groups 36 to 70 than the younger 1 to 35 years (0%), though this association was not statistically significant (Fishers exact value= 0.2984). Prevalence was also higher in patients that were not married(7.4%) than widowed (3.2%) or married ones (0.9%). Likewise, prevalence was higher in patients with secondary education(6.4%) than tertiary(1.8%).

Conclusions

The prevalence of cryptococcal infection was low in the study area in patients already on ART probably because the ART monitoring program used, though did not completely prevent opportunistic cryptococcal organisms from invading, but helped in reducing the incidence. Routine screening of HIV patients is needed for early detection of the infection before unset of complicating clinical symptoms.

Keywords

Cryptococcus; HIV/AIDS; Nigeria

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References

1.Warkentien, T, Crum-Cianflone, NF. An Update on Cryptococcosis Among HIV-Infected Persons International. J STD AIDS 2010; 21(10): 679–684

2.Osazuwa, F, Dirisu, JO, Okuonghae, PE, Ugbebor, O. Screening for Cryptococcal Antigenemia in Anti-Retroviral Naïve AIDS Patients in Benin City, Nigeria. Oman Med J 2012; 27(3):228–231.

3. Mirza,SA, Phelan, M, Rimland, D, Graviss, E, Hamill, R, Brandt, ME, Gardner T,Sattah M, de Leon,GP, Baughman, W, Hajjeh, RA. The changing epidemiology of cryptococcosis: an update from population-based active surveillance in 2 large metropolitan areas, 1992-2000. Clin Inf Dis 2003;36 (6)789-794

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