

Neurological opportunistic diseases in HIV infected patients in a Western hospital of Venezuela, 2007-2009

Sir,
HIV-associated central nervous system (CNS) diseases represent a significant burden of disease in the clinical HIV/AIDS context. However, its understanding requires further epidemiological research in many areas of some developing countries where HIV programs are still limited. Impact of many central nervous system opportunistic diseases occurring at those geographical areas remains largely unknown, even though the development of neurological complications represents an important cause of mortality in HIV/AIDS patients.¹

After the introduction of the highly active antiretroviral therapy (HAART) for the treatment of HIV/AIDS infection in 1996, there has been a decline in the incidence and prevalence of opportunistic diseases in general and of neurological complications in particular.²

However, in many countries access to HAART is still limited. Then, conditions such as encephalitis caused by *Toxoplasma gondii* remain common causes of CNS infection in patients with AIDS. Other etiologies, such as cryptococcosis and brain tuberculosis also have an important prevalence in these epidemiological settings.^{3,4}

Herein we assessed the prevalence of CNS opportunistic diseases in HIV-infected patients during a 3-year period in a Western Hospital of Venezuela (Barquisimeto, Lara). Monthly surveys of confirmed HIV cases at the Central Hospital of Barquisimeto from January 2007 to September 2009 were recorded. HIV-infected patients with diagnosis of CNS opportunistic infections and associated neurological disorders were included in this study. Epidemiological, clinical and immunological variables were collected and analyzed in order to characterize the profile of HIV infected patients presenting CNS opportunistic diseases at Barquisimeto. For statistical analyses the SPSS/STM software was used (level of confidence of 95%, p significant < 0.05).

During the study period, a total of 228 HIV infected patients were diagnosed and treated; thirteen of them (5%) presented with neurological opportunistic diseases. Twelve (92%) were male; the mean age was 34.5 years (range 18-50 years-old). Only 30% (4/13) were receiving antiretroviral treatment. The most common symptom was fever present in six (46%) patients, followed by diminished muscular strength and headache in five patients (38%), convulsions and consciousness alteration was also seen in four patients (30%), among other findings. Neurological diagnoses were: seven (53%) cases of cerebral toxoplasmosis, three (23%) cerebral cryptococcosis, two (15%) cerebral tuberculosis and one motor-sensitive neuropathy (7%).

Most of them (84%) also had associated diagnoses: pancytopenia (46%), *Pneumocystis jirovecii* pneumonia (38%), and candidiasis (30%); Kaposi sarcoma, diabetes, pulmonary tuberculosis and chronic diarrhea were also present.

Mean CD4 count was 120 cells/mm³, CD8 count mean was 571 cells/mm³, and mean HIV viral load of 12,120 copies/mm³ (3.22 Log). CFR was 15%.

Neurological manifestations are frequent with the acquired immunodeficiency syndrome; complications vary according to the stage of the illness. They are caused either by opportunistic infections, by tumors or by the virus itself.² Currently, neurologists are confronted with HIV-associated neurocognitive disorders, depression, polyneuropathies, muscle disease, neurosyphilis and opportunistic brain infections.⁵

Previous studies have reported states of coma, agitations, mental confusion, meningitis syndrome, memory deficit, fever, focal neurological deficit, cognitive dysfunction, altered mental status, dementia and hallucinations as clinical features of neurological pathology in HIV patients.^{2,5} Neuroinfection represents

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Submitted on: 7/1/2010
Approved on: 7/2/2010

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We declare no conflict of interest.

an important finding in these patients, etiologies are represented by cerebral malaria, neuromeningeal cryptococcosis, toxoplasmosis, bacterial meningitis, cerebral TB among others.^{2,4}

In this study, neuroinfection was the first cause of hospitalization in HIV-infected patients with neurological symptoms. Toxoplasmosis was the most common opportunistic brain lesion. The majority of patients had other associated diagnosis including opportunistic infections outside of the CNS. Studies to determine the real country prevalence and characteristics of these neuropathologies are warranted. Early diagnosis is important in order to prevent potential complications and sequels. Furthermore, clinical follow-up studies of these infected patients are also needed in order to evaluate the evolution of disease and development of associated conditions.

ACKNOWLEDGEMENTS

This work was previously presented in part as a poster at the 14th International Congress on Infectious Diseases, 4th Regional Conference of the International Society of Travel Medicine, II Latin-American Congress of Travel Medicine. Miami, USA. March 9 - 12, 2010. Poster No. 78.007

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