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PREVALENCE OF IgG AND IgM ANTI-*TOXOPLASMA* ANTIBODIES IN PATIENTS WITH HIV AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

María de la Luz Galván Ramírez, Virginia Valdez Alvarado, Gustavo Vargas Gutierrez, Octavio Jiménez González, Carlos García Cosio and Marcos Vielma Sandoval

With the emergence of the human immunodeficiency virus (HIV), in patients with acquired immunodeficiency syndrome (AIDS), Toxoplasma gondii *has arisen as an important opportunist pathogenic agent, especcially in the central nervous system, being the most common cause of intracerebral lesions. The incidence of* Toxoplasma gondii *in HIV-infected patients depends principally on the existence of latent* Toxoplasma *parasitosis in the population affected. Through the enzyme-linked immunosorbent assay (ELISA), IgG and IgM anti-*Toxoplasma *antibodies were found in 92 patients of which 46 (50.0%) were IgG seropositive, and only one case (1.0%) had IgM antibodies.Of the 92 patients: 53 were HIV seropositives and 39 had AIDS. The detection and monitoring of anti-Toxoplasma antibodies in HIV patients is essential, since in this group there is a high percentage risk of developing cerebral toxoplasmosis, which is the second cause of death in this type of patients.*

*Key-words: Anti-*Toxoplasma *antibodies. AIDS. HIV. Toxoplasmosis.*

Toxoplasma gondii is one the most common intracelular parasite.While the initial infection and the subsequent chronic one are clinically undetected in 80% to 89% of healthy children and adults[15 16], in immunosuppressed patients, especially those infected with the human immunodeficiency virus (HIV), both acute and recurrent toxoplasmosis severe clinical manifestations[1 2 5 9 16].

In the past, cerebral toxoplasmosis was considered a relatively rare disorder, but with the emergence of HIV, the incidence of toxoplasmosis has risen considerably, causing abscesses and encephalitic toxoplasmosis, resulting from the progressive deterioration caused by a previous latent infection in the brain[4 8 9], although the clinical manifestations are observed in proportion to the diminished number of T lymphocytes[10 11]. Another pathology caused by *Toxoplasma gondii* in this type of patient is ocular toxoplasmosis that occurs in 82% of the cases[3 5]. In HIV patients without previous exposure to *Toxoplasma gondii* the acute infection could not be well controlled, and in these susceptible hosts the parasite could rapidly disseminate, producing dermatitis, pneumonitis, myocarditis, hepatosplenomegaly[5], and also invade the colon[10].

The incidence of *Toxoplasma gondii* in patients infected with HIV depends mainly on the existence of latent anti-*Toxoplasma* antibodies in the population affected[6 7]. Serological studies have demonstrated that 15% to 68% of adults in the United States and 90% of adults in some European communities show latent *Toxoplasma gondii* infection[10 16], which is attributed to geographic differences, feeding habits of eating raw or badly cooked meat, as well as foods contaminated with cat feces containing *Toxoplasma gondii* oocysts[16]. In the U.S. it is estimated that 20% to 47% of all the patients with HIV develop encephalitis caused by toxoplasmosis and 25% to 50%, in Europe and Africa[6 7 10 11 12 13]. In Brazil in the patients who die from acquired immunodeficiency syndrome (AIDS), the principal pathogen that damage the CNS is *Toxoplasma gondii*[14].

In Mexico and in our community the prevalence of anti-*Toxoplasma* antibodies in patients with HIV positive and AIDS is unknown. Because of the risk of damage to the CNS and the high morbidity of this type of patients, we believe it is of utmost importance

Centro de Investigación en Enfermedades Tropicales de la Universidad de Guadalajara, Mexico.
Address to: Drª Maria de la Luz Galván Ramírez., Centro de Investigación en Enfermedades Tropicales de la Universidad de Guadalajara Lago Camecuaro Num. 2398 Col. Lagos del Country, CP: 44177 Guadalajara, Jalisco, Mexico Fax: 91 (36) 179935.
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to find out the prevalence of anti-*Toxoplasma* antibodies in AIDS patients.

MATERIAL AND METHODS

In a period of six months 92 sera were included in this study of which 53 corresponded to HIV-positive patients (HIV), 39 had acquired immunodeficiency syndrome (AIDS). Through the immunoenzyme assay (ELISA), of Platest Menarini diagnostics Company TXG029 and TGM030), IgG and IgM anti-*Toxoplasma* antibodies were detected.

Questionnaire. The following variables were taken into account: sex, age, and clinical diagnosis.

RESULTS

The age range was from 17 to 69 years old, with an average of 34 years and standard deviation of 10.34. The seropositivity distribution according to the age groups is shown in Table 1. In terms of sex, out of 92 patients, 84 (91.3%) were male and 8 (8.7%) were female.

The seropositivity of IgG anti-*Toxoplasma* antibodies was 46/92 (50%) and there was only one case (1.0%) with IgM antibodies. In the sera of AIDS-diagnosed patients we found 27/39 (69.2%) wiht IgG and no case of IgM anti-*Toxoplasma* antibodies, and in the HIV+ patients anti-*Toxoplasma* IgG antibodies were found in 19/53 (35.8%) with a case of IgM.

*Table 1 - Seroprevalence of anti-*Toxoplasma gondii *antibodies according to age group.*

Age	IgG positive		IgM positive	
	nº	%	nº	%
< 20	1	1.1	0	0.0
20-29	17	18.6	0	0.0
30-39	20	21.9	0	0.0
40-49	2	2.2	1	1.0
50-59	3	3.3	0	0.0
> 60	3	3.3	0	0.0
Total	46		1	

DISCUSSION

The results obtained show that AIDS patients have a greater percentage of anti-*Toxoplasma gondii* IgG antibodies, possibly because their immudeficiency is very advanced and because of diminished CD4+ as other researchers have described[9 10 11]. The presence of IgG antibodies in HIV+ and AIDS patients can be due to reactivations of *Toxoplasma gondii* of a previous endogenous infection, such as other authors have considered[9 10 11 16].

For IgM antibodies we only found one case (1.0%) with an infection that possibly was recently acquired, a result similar to that in other population groups (0.75)[6].

The greatest number of seropositive cases was found in the 20 to 39 age group, since the vast majority of AIDS and HIV infected fall into this age range.

In the results obtainde, the seroprevalence of anti-*Toxoplasma* antibodies was greater in AIDS patients, and 50% of these can develop cerebral toxoplasmosis, as other researchers have pointed aout[7 15 16]. Therefore, the diagnosis of toxoplasmosis and immediate treatment in these patients is essential.

RESUMO

*Com a aparição do vírus de inmunodeficiência humana (VIH), a prevalência de toxoplasmosis tem aumentado demais. Em dos pacientes com o síndrome de inmunodeficiência, a toxoplasmosis é a principal causa de morte. A incidência, de anticorpos nesse tipo de pacientes depende da prevalência da população onde se apresenta a doença. O método de Enzima Inmuno Ensaio absorvemnte (ELISA) foi aplicado a 92 pacientes para determinar si eram positivos a anticorpos anti-*Toxoplasma *IgG e IgM. O resultado foi: 46 (50.5%) foram seropositivos e un caso apresentou anticorpos IgM. D estos 92 pacientes, 53 apresentavam o virus de inmunodeficiência humana (HIV) y 39 tinham SIDA. A determinação e o "monitoreo" de anticorpos anti-*Toxoplasma *em pacientes com HIV é indispensável, pois uma taxa elevada destos pacientes pode desenvolver a toxoplasmosis cerebral, a causa principal de morte nessos pacientes.*

Palavras-claves: Anticorpos anti-Toxoplasma. SIDA. HIV. Toxoplasmosis.

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