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Letter to the Editor

Clinical and Biological Correlations in *Toxoplasma gondii* Infection in HIV Immune Suppressed Persons

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Dear Editor-in-Chief

The etiological agent of this antropozoonosis is a protozoan named *Toxoplasma gondii,* discovered in 1908 by Nicolle and Manceaux (1). *T. gondii* may cause a severe life threatening disease, resulting in brain lesions or diffuse encephalitis (2).

The first phase of the study comprised of a batch of 30 patients, both males and females, HIV infected in AIDS clinical immunological phase, registered with the HIV department of Oradea Infection Disease Hospital; all patients were permanent residents of Bihor County. During 2012 the *T. gondii* serological profile was determined. For those infected with HIV (in AIDS clinical immunological phase) and *T. gondii* (acute form of the disease at the time of our evaluation or in the past) it was completed an eye examination (fundus), as to assess the possible modifications of chorioretinitis. For those presenting specific modification, the investigations were supplemented by Optical Coherence Tomography.

The second phase of the study completed between 2010 – 2013, comprised of a batch of 299 female patients infected with *T. gondii* (acute form of the disease at the time of our evaluation or in the past), but in an immune competent status, and 12 HIV infected subjects (AIDS clinical immunological phase) and consequently *T. gondii* infected (acute form of the disease at the time of our evaluation or in the past); the 12 subjects were part of the previous batch. The whole batch was examined by the ophthalmologist (fundus), and for those suspected for toxoplasmosis chorioretinitis the Optical Coherence Tomography was completed for confirmation purpose. The measurement of toxoplasma IgM and IgG antibodies was determined in Biostandard laboratories using Chemiluminescence Immuno Assay method. This was completed at the first medical visit and then monthly, by using Immulite 2000 apparatus with original reagents.

In order to outline a relevant and consistent statistical study we considered the medical statistical models available in Anglo Saxon specialized bibliography. For the purpose of storing the file study data in a dedicated data base and in order to perform the statistical testing the MedCalc® 9.4.2.0 was used (MedCalc® Software, Mariakerke, Belgium) (3).

HIV/AIDS is one of the biggest challenges of public health in human communities (4). (HIV infected patients in AIDS clinical immunological phase presented negative serology for *T. gondii* infection in 60% of total patients (P=0.0017).

A percent of 6.7% of HIV infected patients in AIDS clinical immunological phase presented clinical and biological features for acute toxoplas-

mosis. This result is in line with values available within the studied literature, as the *T. gondii* acute infection measured weight in HIV infected patients (AIDS clinical immunological phase) varied from 4.6% to 9,7% (5, 6). On the other hand, the weight of HIV infected subjects (AIDS clinical immunological phase) presenting acute *T. gondii* infection in the past was 33.3%. This result was close to the weight measured in the literature (37.8%) (5).

The distribution by environment of origin as well as the age distribution of *T. gondii* infected patients (acute form of the disease at the time of our evaluation or in the past) and HIV infected (AIDS clinical immunological phase), did not indicate significant statistical variances (P =1.000 respectively P =0.7051). The data were in line with data available in many studies, which is an indicator that the weight of *T. gondii* infected subjects was not determined by gender, age and antiretroviral treatment (5, 7).

The low socio-economic status subjects were predominant at a real statistical significance (P=0.0087). The toxoplasmosis chorioretinitis in *T. gondii* infected patients was not significantly present in immune competent patients. Within our casuistry just 2.3% of these subjects presented chorioretinitis.

The value that we measured was very close to the values available within the literature (2.85% of uveitis patients presented modification specific to toxoplasmic chorioretinitis) (8). Another study completed in Switzerland mentioned 3.99% uveitis patients presenting eye and serological modification specific to toxoplasmic chorioretinitis (9). On the other hand, in case of HIV infected persons (AIDS clinical immunological phase) presenting *T. gondii*, chorioretinitis was determined in 25% of subjects.

Comparing the above-mentioned values, it was determined that the risk for toxoplasmic chorioretinitis was 10.6786 higher in case of HIV immune suppressed patients (AIDS clinical immunological phase) then the immune competent patients (P = 0.0004, relative risk=10.6786, IC95%: 3,14 - 36,28).

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