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Working

Toxoplasmosis and mental disorders in the Russian Federation

Version 1

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ABSTRACT

The association of chronic toxoplasmosis with mental disorders in general and with schizophrenia in particular was noticed in the mid-1950s. In subsequent years, the role of *Toxoplasma gondii* was established based on its ability to survive for long periods of time in the nerve cells of the brain. As a consequence, acute manifestations of the infection lead to psychopathic symptoms similar to schizophrenia and hallucinations. In the former USSR, and in other parts of the world, a number of studies were performed with respect to the association of latent toxoplasmosis and schizophrenia. However, with the dissolution of the USSR at the beginning of the 1990s, studies on the subject were halted due to financial problems and have resumed only recently. The reasons for the resumption of such studies in contemporary Russia are related to the progressively increasing incidence of schizophrenia over the last 25-30 years in the country. According to official data, approximately 550 000 persons reported suffering from the disease in 2014. There are reasons to believe that this is only a fraction of the real burden of the disease. Economically, it cost the state no less than approximately US \$10 billion. The purpose of the study was to identify the level of toxoplasmosis seroprevalence in patients with verified diagnoses of schizophrenia in comparison to healthy people in Moscow City and in the Moscow region. A total of 155 persons constituted the experimental group and 152 healthy people were in the control group. An integrated approach to the diagnosis and comparison of data from the entire spectrum of serological markers of infection was used, including the detection of specific IgM and the determination of IgG concentrations and the IgG avidity index. It was found that among persons with neuropsychiatric disorders, the incidence of cases with chronic toxoplasmosis was higher than in the control group. The effect of toxoplasmosis was significant and similar for men and women. Further statistical analyses revealed that among patients with a diagnosis of schizophrenia, the incidence of chronic toxoplasmosis was significantly higher than in the control group. These data are in agreement with the results of similar studies in other countries.



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PROTOCOL STATUS

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We use this protocol in our group and it is working



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