

OPINION

On the Dissertation thesis of Assoc. Professor Iskra Georgieva Raynov, MD, PhD on the topic: **"Helminthozoonoses /trichinellosis, toxocariasis and echinococcosis/ in humans - epidemiological indicators, distribution, diagnosis and treatment"**

for the scientific degree **"Doctor of Sciences"**

By Academician Bogdan Petrunov, MD, DsC

NCIPD, BAS

The scientific work presented for evaluation by Assoc. Prof. Rainova is a broad and comprehensive study of one major parasitoses category - helminthozoonoses, with the greatest importance to human pathology. The elaboration on this problem, based on the wide range of international and national literary information requires a lot of serious professional theoretical and practical training of the candidate to be able to summarize and systematize the obtained data and make scientifically sound conclusions. I must immediately emphasize that Assoc. Prof. Rainova has successfully presented herself in this regard and with her long experience as a leading parasitologist in the country is the grounds to accept her research with a high degree of confidence.

The purpose of the study is clearly stated in the title of the dissertation thesis, well supported by those five specific tasks covering the complete issue. The literature review is impressive with its enormous information regarding the three studied parasitoses involving 427 publications. It is a very useful study that deserves to be formulated as a separate monographic publication. It is also very well structured, presenting data on current knowledge of the spread, the epidemiological process, the pathogenesis and especially the diagnosis and methods of treatment of helminth infection.

The great number of individuals studied and observed in the period 2000 - 2017 is very impressive: 2068 with trichinellosis, 2087 with toxocariasis and 8157 with echinococcosis, based on official data in the epidemiological cards in the annual reports of RHI in the country and the studies and analyzes carried out at the Department of Parasitology and Tropical Medicine at the NCIPD. It is a very large amount of research work by the applicant for understanding and analyzing the diverse information which requires high professional competence. The laboratory-diagnostic activity of Assoc. Prof. Rainova is also large in volume and related to the development of methods for the production of various parasitic antigens, which reach the level of preparations for qualitative diagnostics of some

parasitoses, widely used in the country. All this is an example of her active focus on practical problems of parasitic infections in the country and implementation of theoretical and experimental data in daily clinical work. The epidemiological studies, which are the basis for the development of relevant normative documents in the field of fight against parathyroid diseases in the country, are very competent. All results presented in the dissertation work are supported in terms of their credibility with carefully selected statistical methods using the computer program SPSS.

My detailed introduction to the dissertation work of Assoc. Prof. Rainova allows me to point out the following important achievements as a result of its development.

1. Of the greatest importance, in my view, is the in-depth epidemiological analysis, resulting from an 18-year period, of monitoring the spread of the three helminthoses in the country, the mechanisms and trends in this respect and the degree of risk they pose to national health. This is the scientific basis for the development of the necessary regulatory documents by the Ministry of Health in limiting these parasitoses in our country.

2. As I mentioned above, special contributions should be made to the development of appropriate antigens and enzyme-linked-immunoassay methods, the IgG avidity test and Western blot, in the diagnosis of toxocariasis and trichinellosis, which help to reveal the process of chronicity of the infection.

3. Data on trends in the incidence of cystic echinococcosis are of great theoretical and practical value, which reveal that our country continues to be a leader among EU countries, which is contributed by the fact that only 26% of the operated patients underwent quality chemoprophylaxis. This shows that much more intensive and well-organized medico-social preventative measures are needed in this regard.

4. Of particular interest to me are the results of the established seroprevalence for toxocariasis - 17.3% among 2,087 individuals, which shows the specific role that this parasite can play in the onset of allergic diseases, etc. undefined eosinophilic syndromes.

As a result of the developed dissertation, the author is manifested very active publication activity to make its results known to the medical community. She has prepared 5 chapters in 4 specialized monographs, published 10 articles in Impact Factor journals with a total Impact Factor - 13,369, 12 more articles in national and international journals without Impact Factor, and has presented papers at 23 national and 9 international scientific meetings, as a result of which she has received 25 citations in international and national publications in

10 of her scientific works. Assoc. Prof. Rainova has been very active in her participation in 4 scientific projects in connection with her dissertation, one of them international.

Abstract of a dissertation work is prepared very carefully, even I would say in detail and fully reflects the results and their analysis. The whole procedure for the elaboration and defense of the dissertation was conducted in accordance with the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the NCIPD.

In conclusion, I would like to declare that the dissertation of Assoc. Prof. Iskra Rainova, MD, PhD, on the topic "Helminthozoonoses /trichinellosis, toxocariasis and echinococcosis/ in humans - epidemiological indicators, distribution, diagnosis and treatment" meets all the requirements for a very well planned and elaborated scientific work, with clearly outlined theoretical and especially practical contributions not only of national but also of international importance, the result of the long-standing, highly professional work of the candidate Assoc. Prof. Rainova. She introduces herself as a highly skilled and intelligent parasitologist capable of conducting, analyzing and summarizing large-scale scientific research.

After having said all that I recommend with conviction, to the Honorable Members of the Scientific Jury to unanimously award the Scientific Degree "Doctor of Medical Sciences" to Assoc. Prof. Iskra Georgieva Rainova, MD, PhD for her dissertation work.

January 11 2020

A handwritten signature in black ink, appearing to be 'Bogdan Petrunov', is written over a faint, circular official stamp or watermark.

Academician Bogdan Petrunov, MD, DSc