

OPINION

**of Assoc. Prof. Iskra Georgieva Rainova, MD, PhD
National Center of Infectious and Parasitic Diseases (NCIPD)
Scientific Jury Member (Order № 452/29.10.2019 г.)**

Concerning: Dissertation thesis for the award of the educational and scientific degree
“Doctor” in the professional field **4.3.Biological Sciences**
scientific specialty “**Parasitology and Helminthology**”

Author: Eleonora Marinova Kaneva

**Self-training education form
Department of Parasitology and Tropical Diseases, NCIPD**

**Thesis topic: “Development and application of serological methods for the
diagnosis of Toxocariasis and evaluation of their significance as markers for the
disease stage in humans”**

Scientific Supervisor: Assoc. Prof. Iskra Georgieva Rainova MD, PhD, NCIPD

1. Presentation of the procedure and the doctoral student

The presented materials on paper and digital files are in alignment with Art. 31 (2) of requirements for the acquisition of PhD in NCIPD, included in the Regulations for the application of the Law for Development of the Academic Staff in the Republic of Bulgaria, and contain papers as follows:

- application to the Director of NCIPD for opening a procedure for public defense;
- enrollment order – original version;
- protocol from the scientific council (SC) for deduction and right to public defense;
- protocols for passed exams, according to the individual curriculum;
- Master’s degree diploma - copy;
- working background;
- dissertation;
- abstract;
- copyright certificate for compliance with the minimum national requirements.

The preparation and arrangement of the necessary documents is correct and precise. Eleonora Kaneva is applied a list with 15 scientific publications in scientific issues and 58 participations in congresses and conferences, despite the dissertation and its abstract. It is important to notice, that despite the type of training form (self-training

education form), the doctoral student accomplish the researches in the estimated time, according to the Law for Development of the Academic Staff in the Republic of Bulgaria.

Eleonora Marinova Kaneva graduated Master degree in Molecular biology in SU "Sv. Kliment Ohridski" and her skills, collected during her study program, have helped her lot to adapt to the specific work in Department "Parasitology and Tropical medicine", in which she start working in 2006. She is fluent in the methods of serological and bio-molecular diagnostic of the parasitoses. In 2016 she has been enrolled as a PhD student on self-training education form in DPTM, such as her thesis is consider to her qualification and skills.

2. Assessment of the personal participation of the PhD student in the dissertation

The thesis is pointed to significant problem and has the aim to improve the diagnostic of toxocariasis, which is not very well known in our country as a parasitic disease. All received results and contributions are completely personal merit of Eleonora Kaneva. As a scientific supervisor I would say, that the confirmatory laboratory tests ELISA IgG1-4 are developed only by her from the antigen preparation to the reporting of the results. During her education, the doctoral student managed very well the research of the literary sources, which were necessary for the study of all the aspects of toxocariasis, especially the diagnostic methods of this parasitosis. The bibliography volume speaks by itself. There are 306 authors' publications on Cyrillic and Latin in which 15% are published after 2005. Eleonora Kaneva presented herself excellent on the exams for doctoral minimum and participated actively in the courses for post graduate education (PGE). She has 350 credit points for the period of her PhD education.

3. Assessment of the received results and their scientific value

Huge volume of experimental and practical work had been conducted, which covers the dissertation's tasks. The used methods (serological, clinical-laboratory and statistical) are adapted according to the tested material. The application of system SPSS version 20.0 objectified the results and avoids subjective error. That is why the research is well grounded and scientifically proved. The received results and the discussion are presented in two main chapters – IV and V in dissertation, in 126 pages. The results are visualized clearly on 36 tables and 54 figures, which follow the stages of accomplishment of the separate tasks. The discussion is distinctly, analytic and generalized the received results, which gives clear vision for the research work, corresponding to the main aim. Most of the contributions are original (6) and show the scientific value of the dissertation and the abilities for the application of the new laboratory diagnostic methods for determination the stage of the invasion and differentiation between acute and chronic form of toxocariasis.

Eleonora Kaneva is published 4 articles in scientific journals, in a relation with the dissertation. 3 of them are published in Bulgaria and 1 in foreign journal. She is the

first author in 3 publications. Two of the papers are with total IF 2.353. She is presented 4 abstracts on the topic from participations with reports and posters in scientific forums as a first author. One of those papers is presented abroad.

The abstract has 70 pages, 19 tables, 30 figures and summary on Bulgarian and English, which represents the essential of the dissertation.

As a scientific supervisor I would like to highlight some of Eleonora Kaneva's personal qualities. She is very ambitious, organized and communicative person. She systematically monitors the innovations in the literature, related to the medical parasitology and participates actively in different scientific forums in Bulgaria and other countries.

CONCLUSION

The dissertation has scientific and scientific-practical results, which are original contribution in the science field and responds to all requirements in the Law for the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), Regulations of LDASRB and the Regulations of NCIPD. The presented results and materials of the dissertation are in alignment with the specific requirements in the Regulation of NCIPD for application of LDASRB.

The dissertation paper shows, that the PhD student Eleonora Marinova Kaneva has deep theoretical knowledge and professional skills in the scientific field "Parasitology and Helminthology", as she demonstrates qualities and ability to manage a separately scientific research.

Due to the foregoing, I give my positive assessment for the conducted research, achieved results and contributions and suggest to the honored jury to award Eleonora Marinova Kaneva with the educational and scientific degree "Doctor" in the scientific specialty "Parasitology and Helminthology".

04.12.2019

Drafted the opinion:



Assoc.Prof. Iskra Rainova, MD, PhD