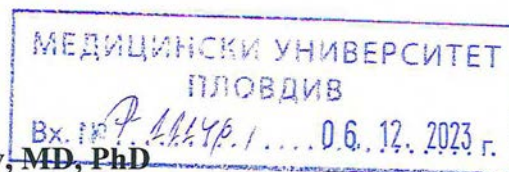


STATEMENT

By Prof. Anastas Zgurov Batalov, MD, PhD



Faculty of Medicine, Medical university – Plovdiv

Department of Propedeutics of Internal Diseases „ Prof. Dr. Anton Mitov”

Regarding the thesis for the award of the educational and scientific degree “**doctor**”

Professional field 7.1 Medicine; 7. Health
doctoral program 03.01.18 Rheumatology.

Author: Dr. Lili Edvard Mekenyan

Form of doctoral program: regular PhD student

Department: “Propedeutics of Internal Diseases „Prof. Dr. Anton Mitov”, Medical university – Plovdiv

Topic: „High-frequency ultrasonography in Polymyalgia Rheumatica”

Scientific supervisors: Assoc. Prof. Rositsa Karalilova, MD, PhD, DMSc and Prof. Ilian Doykov, MD, PhD

1. General presentation of the procedure and the doctoral student.

The presented set of materials on paper/electronic media is in accordance with Art. 70 (1) of Section I. Acquisition educational and scientific degree „DOCTOR” at MU – Plovdiv; Regulations of MU – Plovdiv from 28.01.2021 and includes the following documents:

- Application to the Rector of MU – Plovdiv for disclosure of the procedure for defense of the dissertation.
- CV in European format with the signature of the doctoral student
- notarized copy of higher education diploma
- orders for enrollment in doctoral studies, interruption of studies (due to maternity) and for continuation of studies; for deduction with the right to defense
- order for conducting an exam from the individual plan and a corresponding protocol for passing an exam or a doctoral minimum in the specialty
- protocol of the department council for preliminary discussion of the dissertation work and the decisions taken for opening the procedure and for the composition of the scientific jury
- dissertation work
- abstract
- list of scientific publications on the topic of the dissertation
- copies of scientific publications
- list of participations in scientific forums
- list of noticed citations
- declaration of originality and authenticity of the attached documents
- other documents related to the course of the procedure

The doctoral student has submitted three publications, of which one in an international journal with impact factor and two in refereed Bulgarian journals, participation in Bulgarian forums and

congresses, meeting the requirements of the regulations for the number of published scientific studies.

Dr. Lili Edvard Mekenyan was born in Plovdiv in 1992. She graduated with honors from Plovdiv Language High School in 2012 and Medical University – Plovdiv with honors in 2018. Since March 2019, she has been a regular doctoral student in the Department of Propedeutics of Internal Diseases „Prof. Dr. Anton Mitov” at the Medical University – Plovdiv. Since 2020 she is a resident in rheumatology at the University Hospital „Kaspela“, Plovdiv. From 2022 is an assistant professor in the Department of Propedeutics of Internal Diseases at MU – Plovdiv. Teaches student groups in English in propedeutics of internal diseases. She has qualifications in musculoskeletal ultrasonography and capillaroscopy. She has participated in a number of Bulgarian and international conferences.

2. Relevance of the topic

The dissertation examines a current problem in rheumatology. It is dedicated to one of the most common chronic inflammatory rheumatic diseases among the elderly over 50 years of age – Polymyalgia rheumatica (PMR). The abrupt deterioration of quality of life in these patients requires early recognition of the symptoms of the disease and exclusion of a broad spectrum of diseases that can mimic PMR. The diagnosis of PMR poses many challenges since there are no specific diagnostic tests, which makes the diagnosis and subsequent therapeutic approach difficult. Using modern instrumental techniques, increasing evidence is obtained on the morphological substrate of the disease. High-frequency ultrasonography is widely accessible and harmless method. It allows precise identification of the affected joints and periarticular soft tissue structures in patients with PMR. On the other hand, the prevalence of subclinical giant cell arteritis (subclinical GCA) in PMR has been of increased scientific interest in recent years. The use of modern imaging methods provides great opportunities for early diagnosis of subclinical vasculitis in patients with PMR. To date, there is a relatively limited amount of published data on the role of US for assessment vascular involvement in PMR.

So far, no studies have been conducted in the Bulgarian population to investigate the diagnostic possibilities of high-frequency ultrasonography in PMR. Moreover, the PhD team is one of the few in Europe to conduct an extensive US examination of multiple joints and vessels in PMR patients. Few data are published regarding the optimal cut-off values for intima-media thickness (IMT) to discriminate patients with vasculitis and controls. The present study is the first to propose cut-off values of IMT for distinguishing PMR patients with US GCA.

The above defines the topic of the dissertation as relevant and contemporary.

3. Knowledge of the problem

Dr. Lili Mekenyan shows in-depth knowledge in the field of research. The current state of the problem is skillfully outlined and unsolved problems are extracted. On the basis of this overview, the aim of the scientific work was derived: „Assessment of articular, periarticular and vascular involvement in patients with polymyalgia rheumatica (PMR) using high-frequency ultrasonography“.

4. Research methodology

The methods used in the research are contemporary, correspond to the developed protocol and allow achievement of the set goal and tasks. According to the Declaration of Helsinki on human research, all patients and healthy volunteers signed an informed consent document approved by the Ethical Committee of MU – Plovdiv.

5. Structure of the dissertation

The dissertation is written on 251 standard typewritten pages and illustrated with 36 tables, 43 figures and 27 appendices. The bibliographic reference includes 309 literature sources, 10 of which are in Cyrillic and 299 in Latin.

The introduction is specific and accurate. It presents modern views on the problem under

consideration and points to the possibility of influencing the disease.

The aim and tasks are clearly formulated.

The literature review is comprehensive and covers 64 pages. It shows good knowledge of the discussed problem, as well as the ability of the doctoral student to analyze the experience of foreign authors.

The Materials and Methods section is described in 20 pages. 74 participants were included, of which 37 patients with polymyalgia rheumatica and 37 healthy controls. Inclusion and exclusion criteria are well chosen and clearly defined. The demographic and clinical characteristics of the studied groups are described in detail. Clinical, paraclinical incl. immunological, as well as instrumental studies, including two-dimensional ultrasonography (Gray Scale YC) to assess joints, periarthicular structures and vessels (determination of intima-media thickness of temporal and axillary arteries); Power Doppler US for evaluation of synovitis, tenosynovitis, bursitis and enthesitis; Colour Doppler US to assess vascular involvement were performed adequately in all participants. The statistical analysis is modern and competently performed with SPSS program v. 27.0 and is illustrated with relevant graphs and figures.

The Results section is presented on 79 pages. The results are presented logically and consistently and correspond to the set aim and tasks. Each analysis is followed by a detailed discussion of the results obtained. The results are illustrated with a sufficient number of tables and figures.

The discussion is presented in 14 pages. It is critical and well summarizes and compares the results obtained by the PhD student with those on a global scale and looks for the reasons for these differences.

There are 10 *Conclusions* and they originate from the set tasks and obtained results. *The Contributions* are respectively – 4 original contributions, 4 scientifically applied and 2 contributions of confirmatory nature.

The Bibliography consists of 309 titles, 10 of which are in Bulgarian and 299 in English, most of the titles are from recent years.

The work includes 27 appendices that supplement and enrich the dissertation.

6. Evaluation of publications related to the dissertation

Publications are 3, one of which is an article in an international refereed journal with an impact factor of 3.58. This article is currently cited in one of the most prestigious medical journals – The Lancet. The remaining 2 were published in refereed Bulgarian journals. These publications are sufficient in number and meet the criteria set out in the Regulations of MU – Plovdiv. There are 4 participations in Bulgarian forums with international participation.

7. Abstract

The abstract meets the requirements. It reflects in a synthesized form the most important moments of the dissertation in all its sections.

8. Critical remarks and recommendations

I have no significant critical remarks regarding my submitted dissertation and abstract.

CONCLUSION

The dissertation is elaborated in detail, with scientific and practical contribution, and meets all the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulation for the Implementation of LDASRB, and the corresponding Regulation of Medical University – Plovdiv.

This gives me reason to recommend to the respected members of the scientific jury, appointed by order № R-3111/26.10.2023 of the Rector of MU – Plovdiv, to vote a positive assessment of a dissertation for the award of the educational and scientific degree „Doctor“ of Dr Lili Edvard Mekenyan, regular PhD student and assistant professor at the Department „Propedeutics of internal

diseases „Prof. Dr. Anton Mitov“ at MU – Plovdiv on the topic: „High-frequency ultrasonography in Polymyalgia Rheumatica“ with scientific supervisors: Assoc. prof. Rositsa Karalilova, MD, PhD, DMSc and Prof. Ilian Doykov, MD, PhD, in the doctoral program: „Rheumatology” in professional field 7.1. Medicine, 7. Health.

22.11.2023

