

STATEMENT

by

Assoc. Prof. Georgi Stanev Yankov, M.D., PhD

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**Regarding: Dissertation work for the award of the educational and scientific
degree "Doctor" Professional field: 7.1 Medicine, Thoracic surgery**

Basis of the order by the Rector of Medical University - Varna: No. R-109-348/
18.07.2023

To Dr. Katerina Marinova Marinova

Department of Surgical Diseases, Medical University Varna, doctoral student in
regular form of education

**Topic: "Advantages and disadvantages of different thoracoscopic approaches
in the diagnosis and treatment of pleural effusions"**

Supervisor: Prof. Rumen Nenkov, M.D., PhD

The candidate submits for review, the dissertation work, abstract, a list of publications on the topic of the dissertation, which is in complete accordance with the regulations of Medical University Varna for obtaining the educational and scientific degree "Doctor."

Brief Biography: Dr. Katerina Marinova Marinova was born on August 4, 1986. She completed her medical degree in 2012 at Medical University Varna. In 2020, she obtained a specialization in thoracic surgery, and this year she obtained a specialization in general surgery. From 2014 to 2015, she served as an honorary assistant at the Department of Surgical Diseases, University Center for Thoracic Surgery, Medical University-Varna. Since 2015, she has been an administrative assistant at the same department. She has undertaken numerous courses and trainings abroad in thoracoscopic surgery. She has also participated in courses and seminars both nationally and internationally.

Dissertation Work Structure

The dissertation work is written on 125 standard pages. The identified correlations are presented and illustrated through 18 tables, 10 diagrams, and 20 images. It is evenly divided into the following sections: Introduction, Objectives, Tasks, Materials and Methods, Results, Discussion, Conclusions, and Contributions. The bibliography contains 228 literary sources, with 10 in Cyrillic and 218 in Latin script.

Relevance and Significance of the Dissertation Work

Pleural effusions represent one of the most common conditions in the field of thoracic surgery. There exist numerous diagnostic and treatment options, but the timing and precise selection of interventions remaining subjects of debate. A pleural effusion involves the excessive accumulation of fluid in the pleural cavity, impeding the function of the lung. From a pathophysiological perspective, the cause stems from an imbalance in normal fluid dynamics due to increased production or insufficient reabsorption. In recent years, with the advancement of minimally invasive techniques, there has been a shift in the traditional approaches to diagnosing and treating pleural effusions. There is a growing tendency to utilize thoracoscopic access over conventional surgical techniques due to its potential to reduce hospital stays, mitigate post-thoracotomy pain, and alleviate its adverse consequences, such as compromised breathing with difficult expectoration, secretion retention,

atelectasis, infiltrates, the need for extensive medication, and poorer cosmetic outcomes. Video-Assisted Thoracoscopic Surgery (VATS) techniques comprehensively address the challenges posed by pleural effusions and offer a personalized approach based on the specific type of effusion and the individual patient's condition.

Dr. Katerina Marinova has constructed her dissertation work around a contemporary healthcare issue – a comprehensive study on the clinical-diagnostic and therapeutic aspects of pleural effusions.

The structure of the literature review, the formulation of objectives and associated tasks, as well as the presentation and analysis of results, demonstrate that the candidate possesses a thorough investigative perspective on the examined scientific problem.

Characterization and Evaluation of the Dissertation Work

The literature review is uniformly structured and encompasses all aspects of diagnosis, surgical procedures, and contemporary minimally invasive techniques.

The aim is shortly and clearly formulated, aiming to investigate the advantages and disadvantages of various thoracoscopic approaches in diagnosing and treating pleural effusions. **The goal** is to personalize the choice of approach and technique based on the type of pleural effusion.

The objectives are accurately and consistently outlined, totaling four in number. The candidate has provided adequate responses to each of them.

The dissertation work was implemented on 325 patients. Of these, 207 were male and 118 were female, and a retrospective analysis of these patients over a 10-year period was performed. The study carried out covers the period from 2012 to 2022. The patients included were hospitalized and treated in the Department of Thoracic Surgery of St. Marina University Hospital. Clinical, laboratory and instrumental methods of patient examination were used. The operative methods were multiportal,

biportal and uniportal VATS. The processing of the results was performed by appropriate statistical methods.

The results were structured correctly, and the thoracoscopic techniques were found to be applicable and safe in terms of diagnostic and therapeutic activity. The advantages and disadvantages of each individual thoracoscopic approach are discussed, providing an opportunity to individualize the approach and treatment and to improve outcomes in each patient

As a result of own experience and critical analysis of the literature, diagnostic and therapeutic algorithm for the management of patients with pleural effusions is proposed. The latter will be extremely useful in thoracic surgical practice.

In the **discussion**, the authors discuss their own results and the literature on the different sections of the study. The advantages and disadvantages of uniportal, biportal and multiportal thoracoscopy are identified.

The **conclusions** are clearly stated and meet the objectives. They are built on the main results of the study and the correct interpretation of the data by generalizing conclusions about it.

The abstract contains 75 pages meets the requirements and content of the thesis, reflecting the main results achieved in the study.

The actual number of Dr. Marinova's scientific publications related to the research work is three, in two of which she is the first author.

In the presented dissertation, it can be seen that Dr. Marinova has managed to motivate a team of researchers for the study of the problem "Treatment of Pleural Effusions". At the same time, it is found that she has made a major personal contribution to the realization of this dissertation. Dr. Marinova has carried out serious research on this medical problem, meeting the criteria for a dissertation.

Conclusion:

Dr. Marinova's dissertation contains scientific and theoretical results that represent an original contribution to science and meet the requirements of the Academic Staff Development Act of the Republic of Bulgaria (ASDA), the Regulations for the Implementation of the ASDA and the Regulations of MU - Varna. The development of the dissertation work "**Advantages and disadvantages of different thoracoscopic approaches in the diagnosis and treatment of pleural effusions**" shows that Dr. Marinova has in-depth theoretical knowledge and professional skills in the scientific specialty of Thoracic Surgery. She possesses the qualities and skills to independently conduct research. On the basis of the above, I give my positive assessment of the dissertation and the studies conducted, presented by the above-reviewed: dissertation, abstract, results and contributions, and propose to the Honorable Scientific Jury to award the degree of "Doctor of Education and Science" to Dr. Katerina Marinova in the professional field 7.1 Medicine and the doctoral program of the specialty of Thoracic Surgery.

21.08.2023, Sofia

Assoc. Prof. Georgi Stanev Yankov, M.D., PhD

