

OPINION

of Prof. Dr. Nikola Yordanov Kolev, D.Sc.

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Medical University “Prof. Dr. Paraskev Stoyanov”, Varna

Chairman of the Scientific Jury, formed by Order No. R-109-1/02.01.2025

of the Rector of the Medical University “Prof. Dr. Paraskev Stoyanov”, Varna

regarding the dissertation for awarding the educational and scientific degree “Doctor”

Field of Higher Education: 7. Healthcare and Sports

Professional Direction: 7.1. Medicine

Scientific Specialty: “Cardiac Surgery”

Author: Dr. Pavlin Lyubenov Manoilov

Form of Doctoral Studies: Independent Preparation

Department: “Cardiovascular Surgery and Angiology”

Topic: “Epidemiology, Risk Factors, and Clinical Manifestation of Wound Infections After Sternotomy. Trends in Prevention and Treatment in the Cardiac Surgery Clinic”

Scientific Supervisor: Prof. Dr. Plamen Panayotov, D.Sc., Department of “Cardiovascular Surgery and Angiology”, Medical University “Prof. Dr. Paraskev Stoyanov”, Varna

1. General Presentation of the Procedure and the Doctoral Candidate

The documentation for Dr. Pavlin Lyubenov Manoilov’s dissertation for the educational and scientific degree “Doctor” has been prepared in accordance with the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria and its implementation regulations at the Medical University “Prof. Dr. Paraskev Stoyanov”, Varna. In connection with the dissertation, the doctoral candidate has submitted seven publications and nine participations in scientific forums.

2. Biographical Data

Dr. Pavlin Lyubenov Manoilov was born in Veliko Tarnovo. He graduated from the Medical University - Pleven in 1991. From 1991 to 1997, he worked at the City Polyclinic in Lyaskovets, Veliko Tarnovo region, and was enrolled in a specialization in "Surgery". From 1997 to 1999, he worked as a surgeon at MOBAL "Dr. Stefan Cherkezov" in Veliko Tarnovo and obtained a specialization in "Surgery" in 1999. From 2000 to 2002, he worked as a medical controller at the Regional Health Insurance Fund (RHIF) in Veliko Tarnovo. From 2002 to 2009, he worked as a surgeon at MOBAL "Dr. Stefan Cherkezov", Veliko Tarnovo. In the period 2009 - 2011, he specialized in cardiac surgery at Ospedale Niguarda, Milan, Italy. In 2011, Dr. Pavlin Manoilov started working at the Cardiac Surgery Clinic of UMHAT "St. Marina" EAD, Varna. He obtained a specialization in "Cardiac Surgery" in 2018. In 2019, he was appointed as an assistant professor in the Department of Cardiovascular Surgery and Angiology at the Medical University "Prof. Dr. Paraskev Stoyanov", Varna. He teaches students in both Bulgarian and English in the subjects "Cardiovascular Surgery and Angiology" and "General Surgery". On 15.12.2022, he was enrolled in an independent doctoral program.

3. Relevance of the Topic and Appropriateness of the Goals and Objectives

The dissertation addresses highly important and relevant issues in cardiac surgery – the occurrence of wound infections after sternotomy, modern treatment methods, and a set of preventive measures to reduce their incidence. Postoperative wound infections in cardiac surgery have specific characteristics that require a specialized and modern surgical approach. The relevance of the topic is determined by several factors – increased postoperative mortality, prolonged hospital stays, additional surgical procedures, and increased hospital costs. There are few publications in Bulgarian literature on these complications, but they are extensively covered in international scientific literature and widely discussed at specialized international forums.

4. Knowledge of the Problem

The presented literature review in the dissertation is extensive and comprehensive, providing a clear insight into Dr. Manoilov's in-depth knowledge of the problem, as well as his scientific maturity in understanding and interpreting literary sources. The author predominantly uses literature from the last 5-10 years. A thorough review of leading global experience and

controversial issues is conducted, with an emphasis on modern aspects of the topic. The dissertation demonstrates the candidate's high level of awareness and ability to analyze and summarize scientific results.

5. Research Methodology

Based on clinical material accumulated over more than 10 years at the Cardiac Surgery Clinic in Varna, Dr. Manoilov clearly formulated the main goal of the dissertation: to minimize the risk of wound infections in the chest area after cardiac surgery and to optimize the management of this serious complication through evidence-based practices and strategies. The seven outlined objectives are well-formulated and sufficient to achieve this goal. The study includes 118 patients with wound infections after sternotomy, compared to a control group of 101 patients, with a total of 1859 patients examined. Two separate studies were conducted over different time periods to assess the influence of risk factors on wound infections, and their results were presented. The frequency of complications before and after the introduction of a Prevention Protocol was compared. The data analysis methods are modern and accessible to clinicians.

6. General Characteristics, Evaluation, and Contributions of the Dissertation

The dissertation consists of 133 typed pages and seven chapters:

- Introduction – 2 pages
- Literature Review – 57 pages
- Objectives, Materials, and Methods – 5 pages
- Results – 9 pages
- Discussion – 29 pages
- Conclusion – 5 pages
- Bibliography – 20 pages

The bibliography includes 335 sources, of which only one is in Cyrillic, and 334 are foreign literature sources. More than 20% of the references are from the last five years. The dissertation contains 24 images, 50 tables, and two diagrams, all of which are clear and well-presented.

The contributions of the dissertation are logically derived and correctly formulated:

1. Conducting a study to identify risk factors for wound infections in the conditions of the Cardiac Surgery Clinic in Varna and analyzing the epidemiology of postoperative wound infections over a 9-year period.
2. Providing information on the first implementation in Bulgaria of a Prevention Protocol for wound complications, detailing patient preparation for surgery, intraoperative and postoperative management, and presenting statistical results on its effectiveness at the Cardiac Surgery Clinic in Varna.
3. Presenting data on the first implementation in Bulgaria of ciNPWT as a preventive measure for wound infections after cardiac surgery in patients with significant risk factors.

The dissertation has two key strengths:

1. It expands knowledge on modern strategies for the prevention and treatment of wound infections after cardiac surgery.
2. It presents a well-developed Prevention Protocol with potential practical applications.

The ideas and methodologies used in this research are rational and contain both scientific and practical contributions.

7. Evaluation of Publications and Personal Contributions of the Doctoral Candidate

Seven articles and nine conference participations related to the dissertation have been published, which meets the requirements of the Medical University - Varna. The dissertation is the candidate's original work and represents a thorough analysis of scientific and applied data with practical contributions to clinical practice and future perspectives.

8. Author's Summary

The author's summary is prepared according to the requirements and clearly reflects the research conducted by Dr. Pavlin Manoilov.

9. Critical Remarks

Some of the presented publications and participations are not directly related to the dissertation topic, but the number of those relevant to the research fully meets the requirements for obtaining the educational and scientific degree "Doctor".

10. Conclusion

Dr. Pavlin Manoilov's dissertation contains significant and original results, from which logically and correctly formulated contributions with original and applied scientific value are derived. The dissertation fully meets the requirements of the Law on the Development of Academic Staff in Bulgaria, its implementation regulations, and the rules of the Medical University - Varna.

The dissertation demonstrates that Dr. Pavlin Manoilov possesses in-depth theoretical knowledge and professional skills.

For the above reasons, I confidently give my positive assessment of the conducted research and propose that the esteemed scientific jury award the educational and scientific degree "Doctor" to Dr. Pavlin Manoilov.

03.02.2025

Varna

prof Nikola Kolev Ds

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