Adjudgment

Professor **Dr. Yuriy Konstantinov Anastasov**, PhD, MD, Department of Propaedeutics of Surgical Diseases MU-Plovdiv

on a dissertation for the award of the educational and scientific degree 'doctor'

professional field of Medicine, Doctoral program ... Plastic, reconstructive, and aesthetic surgery

Author: ..... Stancho Stoyanov Prodanov

Form of doctoral studies: independent preparation

Department: ..Propaedeutics of Surgical Diseases

Topic: **."Electrical burn injuries - modern aspects in pathogenetic mechanisms and surgical approach";**

Director: .....Associate Professor Dr. Elean Ivanov Zanzov, MD

Department of Propaedeutics of Surgical Diseases

1. General presentation

Dr. Stancho Prodanov graduated from medical school in 2006 in Plovdiv. His professional journey began at the Second Surgical Department of Pazardzhik Hospital in 2006. From 2006 to 2008, he worked in the Clinic of Propaedeutics of Surgical Diseases with a focus on Coloproctology at University Hospital "St. George" in Plovdiv. He then joined the Clinic of Plastic, Reconstructive, and Aesthetic Surgery at the same hospital, where he worked from 2008 to 2016. Following that, he was part of the Clinic of Burns and Plastic Surgery at University Hospital "Pirogov" in Sofia from 2016 to 2022.

In 2023, Dr. Prodanov became the manager of "PRO Academy," a medical center in Plovdiv, where he continues his work as a plastic surgeon. Between 2006 and 2013, he participated in various Erasmus internships in France and Poland, specializing in the Burns Clinic in Plovdiv, undertaking internships at the Burns Clinic in Sofia, and at the Clinic of Plastic Surgery at Alexandrovska Hospital in Sofia.

He achieved competence in Plastic Surgery in 2014 and became an assistant at the Pirogov Burn Clinic in 2017. Additionally, he earned a diploma in health management in 2015 and holds certificates from numerous courses in Europe, primarily in aesthetic surgery. Dr. Prodanov is fluent in both French and English.

Overall, his biography demonstrates that he has acquired significant experience in burn-focused medical structures and has received training in the aesthetic aspects of his specialty.

2. Relevance of the Topic

The dissertation topic is both relevant and contributes both practically and scientifically. It addresses the epidemiology of electric burns in Sofia and Plovdiv. The work analyzes the biochemical processes associated with electric burns and evaluates the effectiveness of various therapies. The author explores both surgical and non-surgical treatment options and establishes criteria for selecting appropriate therapies. Additionally, the classification of electric burns is organized, and risk factors related to the severity of these injuries are examined. An algorithm for managing electric burns is proposed as part of this research. All these issues are pertinent and hold significant scientific and practical importance. The comparative analysis between Sofia and Plovdiv based on key criteria further enhances the value of this work.

3. Knowledge of the problem

From the literature review and the discussion, it is clear that Dr. Prodanov has in-depth knowledge of the problem and creatively evaluates scientific information.

4. The research methodology is clearly defined and logically aligns with the study's goals and objectives. A total of 707 patients were included in the study, with 519 receiving treatment at the Burns and Plastic Surgery Clinic of the University Hospital "N. I. Pirogov" in Sofia, and 188 treated at the Plastic, Reconstructive, and Aesthetic Surgery Clinic of the University Hospital "St. George" in Plovdiv, over a span of ten years from 2010 to 2019. Appropriate statistical tools were employed to ensure that this work qualifies as a scientific study.

5. Characteristics and Evaluation of the Dissertation Work and Contributions

The dissertation is extensive and well-organized, consisting of 204 pages, 75 tables, 39 figures, and 3 appendices, with references drawn from 281 sources. The methodology employed allows for clear analysis across demographic, clinical, and prognostic criteria.

A key feature of the dissertation is its comparative analysis of patients with electrical burns in two centers (Sofia and Plovdiv) over a span of 10 years. Notable contributions include the identification of the incidence of electrical burns, which accounts for 5% of all burn cases. The findings reveal a predominance of elderly patients in both centers. Additionally, the dissertation confirms the effectiveness of Total Body Surface Area (TBSA) and Abbreviated Burn Severity Index (ABSI) scoring in triage and outcome prediction.

Furthermore, the work highlights operational thresholds for various interventions, emphasizes the importance of monitoring enzyme levels for deep tissue damage, and advocates for nephroprophylaxis in high-risk cases. The findings also reveal statistically significant differences between the two centers, particularly concerning hospital stay duration, decompression interventions, and the number of surgeries performed.

The dissertation proposes a detailed classification system for electrical burns to facilitate early diagnosis and presents an algorithm for selecting appropriate treatment options. These findings contribute valuable new data for the management of electrical burns and support evidence-based practice. The discussion section outlines future prospects for advancing diagnostics and therapeutic approaches

6. Assessment of Publications and Personal Contribution

The doctoral student has provided evidence of three publications that highlight the key results of his scientific research. He is the first author on two of these publications. One publication appears in a peer-reviewed international journal indexed in Web of Science, which has a reported Journal Impact Factor of 1.740 (2018), currently around 3.4 (Dermatologic Therapy). The other two publications are featured in national peer-reviewed journals: "Medical Review," which is indexed in CABI/EBSCO, and "Surgery," the official publication of the Bulgarian Society of Dermatologists. These results have been disseminated in both an international forum with an impact factor and in national specialized publications, reaching a broad audience of professionals in surgery, burns, and public health.

It is evident from the available information that both the dissertation and the publications involved the personal participation of the doctoral student.

While the conclusions presented are consistent with the objectives outlined in the dissertation, there are more conclusions (13) than original tasks (7). The conclusions

could be consolidated and synthesized for a clearer response to the initial tasks, although this does not detract from the overall quality of the dissertation.

7. Abstract

The abstract reflects the main content of the dissertation, it is prepared according to the requirements.

CONCLUSION

The dissertation contains scientific, scientifically-applied and applied results that represent an original contribution to science and meet the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADSRB), the Regulations for the Implementation of the ADSRB and the Regulations of the Medical University - Plovdiv. The presented materials and dissertation results comply with the specific requirements adopted in connection with the Regulations of the Medical University - Plovdiv for the Implementation of the ADSRB.

The dissertation shows that the doctoral student Stancho Prodanov possesses in-depth theoretical knowledge and professional skills in the scientific specialty of plastic, reconstructive, and aesthetic surgery, demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I confidently give my **positive** assessment of the conducted research, presented by the above-reviewed dissertation, abstract, achieved results, and contributions, and I propose to the esteemed scientific jury to award the educational and scientific degree of 'doctor' to ...Dr. Stancho Prodanov in the doctoral program in plastic, reconstructive and aesthetic surgery..... ...

11.10. 2025

Professor Dr. Yuri Anastasov, PHD, MD