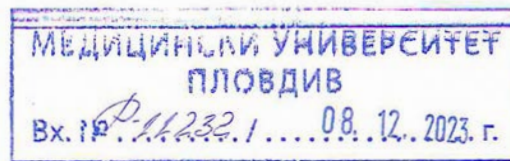


## POSITION



**From assoc. professor Mitko Dimitrov Mitkov, MD, PhD**  
**Department of endocrinology, Medical University of Plovdiv**

referring to doctoral thesis for acquiring doctoral degree in Medicine and Anesthesia  
and intensive care

**Author:** Angel Petrov Prodanov, MD

**Department:** Anesthesia, emergency and intensive care medicine

**Title:** Life-threatening hyperglycemic emergencies in diabetic intensive care unit  
patients

**Mentor:** prof. Chavdar Stefanov Stefanov, MD, PhD, head of the department of  
anesthesia, emergency and intensive care, Faculty of Medicine, Medical university of Plovdiv

### **1. General presentation of the doctorate.**

The presented paper and digital materials are in accordance with the regulations of  
Medical university of Plovdiv regarding the acquisition of doctoral degree.

The doctoral candidate has presented 3 scientific papers, within the scope of the  
research, all of which are published in an established Bulgarian scientific journal, indexed by  
the Scopus database.

### **2. Biography of the doctoral candidate.**

Angel Petrov Prodanov, MD was born in 1985 in Pazardzhik. In 2011 after graduating  
medical school he begun his career as a resident in Anesthesia and intensive care in the  
Anesthesia and intensive care unit of the University hospital St. George, and in 2016 as a  
certified attendant in Anesthesia and intensive care. From 2018 he is the procurator of  
UniHospital, Panagyurishte. In 2020 he acquired a master's degree in Healthcare  
management.

His scientific, educational and teaching career begun in 2014, when he was appointed an assistant professor in Anesthesia, emergency and intensive care medicine in Medical university of Plovdiv.

### **3. Perspectivity of the research topic.**

Hyperglycemia or the high blood-sugar levels and the associated physiologic and biochemical derangements are often part of the problems involved in the clinical management of patients, hospitalized in different hospital units. Although most frequently seen in the endocrinology and medical units, hyperglycemia and diabetes mellitus can be noticed in surgical, trauma and septic patients and it can independently and in conjunction raise the risk of in-hospital morbidity and mortality.

Non the less, by noting the raising prevalence of diabetes globally and the present life-style choices we can predict that diabetes mellitus and the associated hyperglycemic crisis (DKA and HHS) will be a substantial part of the pressures put on the health care systems worldwide. In that sense building an evidence based therapeutic protocol regarding this subpopulation of patients will contribute in the improvement of the growing problem.

**By the above, I consider the study and the doctoral thesis of Angel Petrov Prodanov, MD to be of high scientific and practical value.**

### **4. Familiarity with the research problem.**

The scientific research in the presented doctoral thesis begins with a comprehensive review of the scientific literature. In this chapter the doctoral candidate demonstrates considerable knowledge regarding the epidemiology, pathogenetic and clinical characteristics of diabetes and the associated hyperglycemic complications. There are 246 cited papers, all of which written in English and published in foreign scientific journals. As a flaw I can note the lack of Bulgarian based publications related to the research topic. Never-the-less the cited materials are contemporary, systematically selected and informative enough. The methodologically presented data in this chapter shows that Angel Prodanov, MD is capable of a critical and apprehensible analysis of the scientific literature.

### **5. Research methods.**

The research is a retrospective observational trial. It is methodically conducted, supported by an extensive statistical analysis with appropriate hypothesis testing and adequate level of confidence. Different statistical software were used to perform the analyses and to build graphics.

## **6. Characteristics and assessment of the doctoral thesis and the contributions.**

The dissertation is structured according to the conventional approach and it is a fully realized scientific work. It is written in apprehensible, grammatically and stylistically correct Bulgarian language. It is structured around the following chapters:

1. Table of contents – 4 pages.
2. List of figures – 2 pages.
3. List of tables – 2 pages.
4. Scientific review – 42 pages.
5. Aim and scope – 1 page.
6. Materials and methods – 12 pages.
7. Results – 58 pages.
8. Complex therapeutic approach in life-threatening hyperglycemic emergencies with discussion – 16 pages.
9. Protocol for the treatment of hyperglycemic emergencies – 3 pages.
10. Summary – 2 pages.
11. Conclusions – 1 page.
12. Contributions – 1 page.
13. References – 23 pages.

The dissertation is written on 170 standart A4 pages and there are 27 graphics and 25 tables used for presenting data.

**Title** – clearly and correctly formulated and suitable presents the main idea of the research and the doctoral thesis

**Scientific review** – fully and sufficiently reviews the research problem. Thoroughly presents the limitations and the achievements of the international scientific practice in regards to the research topic. Reflected, as well, is the lack of fully agreed upon approach on hyperglycemic emergencies and the ambiguities around the conduct and targets of glycemetic control.

**The aim and scope** of the research are clearly and exactly formulated, as they logically follow the limitations, presented in the review. I consider the 4 formulated scientific tasks to be fulfilled.

**Materials and methods** – the research is a retrospective observational trial on ICU patients in University hospital St. George for a 2 year period. The inclusion and exclusion criteria accomplish minimizing confabulation. The clinical and laboratory methods of examination as well as the statistical methods are fully presented. The outcome measures used in the study are comprehensibly presented. The two research groups of tight and liberal glycemetic control are defined.

**Results** – are presented in a logical and apprehensible manner. The many graphics and tables used contribute to de ease of presentation. Of interest are the results regarding the association of liberal glycemetic control and higher mortality.

The conducted study as well as the comprehensive scientific review lets the doctoral candidate to generalize and to suggest an approach to the management of the hyperglycemetic emergencies, which is reflected in chapter **Complex therapeutic approach in hyperglycemetic emergencies. Discussion.**

The climax of the scientific work is the **Protocol for the treatment of hyperglycemetic emergencies.** In addition I consider this part of work as the main contribution to the scientific and clinical practice. I agree with the suggested protocol.

**Conclusions** – there are 6 derived conclusions with which I agree with no additional comment

**Contributions** – 4 contributions are formulated, which additionally are subdivided to theoretical and practical. I consider them enough for the purpose of such scientific work.

## **7. Abstract**

The abstract is constructed in a standart manner. It follows the logical presentation of the dissertation. No additional comments regarding the structure and contents.

## **CONCLUSION**

The dissertation has scientific and practical results which **are an original contribution** to the scientific world and it is **in full accordance** to the requirements and law of Republic of Bulgaria and Medical university of Plovdiv for academic growth.

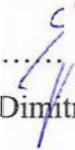
The doctoral thesis shows that the candidate Angel Petrov Prodanov, MD has an **extensive theoretical and professional knowledge** in the scientific field of Anesthesia and intensive care and shows the **ability** for conducting a scientific research.

By the above, I surely present my **positive** assessment of the work and I propose to the honorable jury to **award** the candidate Angel Petrov Prodanov, MD with a doctoral degree in Anesthesia and intensive care.



04 DEC 2023

Заличено на основание  
Чл.5 §1, б. "В" Регламент (ЕС)2016/679



**Position author:**.....  
Assoc. prof. Mitko Dimitrov Mitkov, MD, PhD