

## **Standpoint**

**by Associate Professor Boryana NaydenovaIvanova-Sabeva, MD, PhD**

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on the dissertation thesis and author's abstract of Nikolay Valentinov Mladenov, MD,  
PhD student of independent training at the Department of Anesthesiology, Emergency  
and Intensive Medicine of the Faculty of Medicine at Prof. Paraskev Stoyanov

Medical University of Varna entitled

**'ULTRASOUND EXAMINATION OF THE OPTIC NERVE IN PATIENTS WITH  
CLINICAL AND IMAGING EVIDENCE OF INCREASED INTRACRANIAL  
PRESSURE'**

for the acquisition of the educational and scientific degree of **'Doctor'** in the field of  
higher education No 7 'Public health and sports', professional direction No 7.1  
'Medicine' and scientific speciality of 'Anesthesiology and Intensive Care'

I have been defined to present this Standpoint according to Order No R 109-  
211/April 28, 2021 of the Rector of Medical University of Varna.

Nikolay Valentinov Mladenov, MD, graduates from Prof. Paraskev Stoyanov  
Medical University of Varna in 2013. It begins to work as intern in the CAIT at St.  
Marina University Hospital of Varna in 2013. Since 2015 until present he works as  
assistant in the Department of Anesthesiology, Emergency and Intensive Medicine of  
the Faculty of Medicine at Prof. Paraskev Stoyanov Medical University of Varna. In  
2018, he acquires the speciality of anesthesiology and intensive care.

The present dissertation work is written on 113 typescript pages and is  
structured correctly. It contains all the necessary sections, namely: introduction (2  
pages), literature survey (34 pages), purpose and tasks (one page), material and  
methods (16 pages), own results (34 pages), discussion (six pages), conclusion (one  
page), contributions (one page), three appendices (seven pages), references (12 pages),  
list of publications (one page). It is illustrated with 32 figures and five tables. The list

of references contains 178 titles, seven of which are Cyrillic and 171 in Latin alphabet. The PhD student has published four co-authored papers in one Bulgarian journal - three in 2018 and one in 2020. He is the first author in two and second author in two other papers. His total score of articles amounts to 17,79.

The prospective study of Nikolay Valentinov Mladenov, MD, is devoted to a new, noninvasive and original method for timely ultrasound diagnosis of the increased intracranial pressure through the examination of optic nerve diameter. In Bulgaria, there are no investigations of the transbulbar echographic method for estimation of the optic nerve sheath diameter yet.

In the literature survey of the dissertation, a profound analysis and synthesis of the foreign literature on this interdisciplinary topic available is performed. This is a suitable basis for the proof of the necessity of accomplishing the present study.

The purpose of the dissertation work is clearly defined: 'To study the importance of ultrasound examination of the optic nerve sheath diameter as a screening indicator of the intracranial pressure state'. In order to achieve it the PhD student has formulated six main tasks.

The dissertation is completely up to standard in methodological aspect. The various examinations of the patients and control subjects have been correctly accomplished. The different contemporary methods for imaging diagnosis and anesthesia are presented in detail. Data obtained have been processed with appropriate modern statistical methods of analysis.

The PhD student convincingly proves that the ultrasound optic nerve diameter increases under different pathological conditions which are related to the increased intracranial pressure as the analyzed dimensions correlate with the values of the increased intracranial pressure. These results enable him to recommend the daily monitoring of the optic nerve diameter through ultrasound examination of the patients with a severe the central nervous system damage. In this way, the clinician can timely direct his attention towards the increases intracranial pressure or progression to brain death. The method does not requires any potentially dangerous transport, can be reiterated manifold and is not associated with ionizing radiation thus because of that is

safe and appropriate for screening, diagnosis and monitoring of the patients with high intracranial pressure.

In the Discussion section, the main own results of the PhD student have been juxtaposed to data by other foreign authors on these concrete problems.

The PhD student formulates a total of seven concrete and scientifically grounded conclusions. They correspond to the tasks set and reflect the essence of the results achieved.

Four scientific-practical contributions and two scientific-theoretical contributions have been presented. In my opinion, they are a personal achievement and merit of the PhD student and will contribute to broader application of this reliable diagnostic method in the Bulgarian clinical practice.

Dissertation abstract's content corresponds to the dissertation work.

In the text of the dissertation and its abstracts, there are orthographic and stylistic mistakes. This does not considerably reduce the merits of this elaboration.

The dissertation of Nikolay Valentinov Mladenov, MD, for the acquisition of the educational and scientific degree of '**Doctor**' provided to me for standpoint meets the requirements of the Law for academic staff career in the Republic of Bulgaria. This is an actual and well-implemented scientific work.

Based on these ascertainments, I give with conviction my positive evaluation of the dissertation work and propose to the honoured members of the Scientific jury to award the educational and scientific degree "**Doctor**" in the scientific speciality of 'Anesthesiology and Intensive Care' to Nikolay Valentinov Mladenov, MD.

May 21, 2021

Varna

Standpoint prepared by:

*Assoc. Prof. Boryana Ivanova-Sabeva, MD, PhD*

