

R E V I E W

from

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Department of Nervous Diseases and Neuroscience, MU-Varna

Member of the Scientific Jury under a procedure opened for the needs of

Department of Nervous Diseases and Neurosciences at the Faculty of Medicine at the Medical
University "Prof. Dr. Paraskev Stoyanov"-Varna

About: dissertation for the award of educational and scientific degree "Doctor" of Dr. Radina Svetlozarova Fuchidzhieva in the field of 7. "Health and Sports" in the professional field 7.1. "Medicine" and scientific specialty "Neurology" (03.01.19) at MU-Varna.

With the Decision of the Chairman of the Scientific Jury and according to the Order of the Rector of MU-Varna № P-109-485 from 18.11.2021 I am assigned to present a review of the dissertation of Dr. Radina Svetlozarova Fuchidzhieva on "Prognostic markers for recovery of aphasia after acute ischemic stroke" for the award of educational and scientific degree "Doctor" in the scientific specialty 03.01.19 Neurology.

This review has been developed and presented in accordance with the requirements of the Academic Staff Development Act in the Republic of Bulgaria (ASDARB), the Regulations for implementation of ASDARB and the Regulations on the terms and conditions for obtaining scientific degrees and holding academic positions at MU-Varna.

Brief biographical data of the PhD student

Dr. Radina Svetlozarova Fuchidzhieva is born on July 11, 1989 in Varna. She graduated from high school in SOUEE "St. Constantine-Cyril the Philosopher" in Ruse with a profile in English and Russian. She graduated Medicine in 2014 at the Medical University "Prof. Dr. Paraskev Stoyanov"- Varna. After graduation she started working as a doctor, and later became a resident in neurology in MHAT Ruse in the Department of General and Vascular Neurology.

From 11.2015 works in the Second Clinic of Nervous Diseases with a department for intensive care of neurological diseases.

In 03.2017 after a contest she was appointed a full-time assistant at the Department of Nervous Diseases and Neuroscience. She conducts exercises in nervous diseases for medical and dental students - English language training, midwives and nurses.

In 08.2019 after a contest she was enrolled as a full-time PhD student at the Department of Nervous Diseases and Neuroscience. The topic of the dissertation is "Prognostic markers for recovery of aphasia after acute ischemic stroke".

In 07.2020 after successfully passing the exam she acquired a specialty in nervous diseases. From 12.2021 has started training for electroencephalography.

Dr. Radina Fuchidzhieva has interests in the field of intensive care of neurological diseases. She regularly takes an active part in international, national and regional congresses, symposia and forums. In 2016 participates in the international project ESO-EAST SUNEP, consisting of targeted training of nurses to work in wards for the treatment of acute strokes. She conducted the training "Healthy Lifestyle and Stroke Prevention" in Dubrovnik, Croatia in 2017. She has participated in several international meetings of SITS, SAFE, ANGELS. She has 10 publications and regularly participates in the production of independent and co-authored posters and articles.

Member of the Bulgarian Medical Union, Bulgarian Society of Neurology, Member of the Quality Committee at the Faculty of Medicine at MU Varna.

She speaks English and Russian.

The main directions in the research and applied research of the doctoral student are the intensive treatment of cerebrovascular diseases, epilepsy, demyelinating and inflammatory diseases of the nervous system.

The dissertation presented for review is developed on 156 standard pages of main text, structured in an introduction - 2 pages, literature review - 47 pages, purpose, tasks and hypotheses - 2 pages, material and methods - 4 pages, own results - 39 pages, discussion of the results - 7 pages, conclusion - 6 pages, conclusion remarks - 1 page, contributions - 1 page, bibliography - 28 pages, appendices - 11 pages and list of publications related to the dissertation. - 1 page. The

bibliography contains 291 representative for the content and scope of the study literature sources, of which 12 in Cyrillic and 279 in Latin.

1. Assessment of the relevance of the topic:

This dissertation is devoted to an extremely important health and social problem - identifying markers for the recovery of aphasia after ischemic stroke in order to determine the prognosis for the outcome of the disease. The literature review describes risk factors for ischemic stroke and aphasia, prevalence, classification, recovery factors, rating scales and treatment methods for ischemic stroke, and quality of life in patients with aphasia. The literature review concludes with remarks that support the need to study aphasia after acute ischemic stroke and its follow-up in dynamics. The issues and content of the work are dissertable and are of interest not only to neurologists, but also to a wider range of specialists in the field of neurorehabilitation, speech therapy and psychiatry.

The competently presented by the doctoral student information on the recovery of aphasia in patients with acute ischemic stroke is up-to-date, comprehensive and significant. Evidence of their important diagnostic, therapeutic and prognostic value in clinical practice is presented.

2. Evaluation of results:

The study involved 67 subjects (17 patients who underwent intravenous thrombolysis (clinical group) and 50 patients without thrombolysis (control group), a survey method and specific scales, which are described in detail in the relevant section ("Material and methods").

Modern statistical methods have been used to analyze the obtained data.

The results are illustrated comprehensively in 3 tables and 55 figures with a detailed description of the studied parameters. They are grouped into 6 sections, reflecting the demographic and clinical characteristics of the subjects, monitoring the dynamics of the restoration of aphasia among patients treated with intravenous thrombolysis and those treated with conservative therapy, the established correlations between sociodemographic, clinical and neuroimaging factors as well as the patient's profile of disease outcome. The results include a comprehensive study of 67 patients all with acute ischemic stroke in the left cerebellar artery and correlations with some clinical, neuroimaging and sociodemographic indicators were analyzed, followed in

the 3rd month of the disease. Risk factors for ischemic stroke and aphasia have been identified, and the important role of intravenous thrombolysis in recovery from both motor and speech deficit has been confirmed.

The presented own results are completely sufficient for the implementation of the set tasks.

The results are discussed in detail and compared with data from the world literature. The summaries systematized by the dissertation are plenty specific and convincing, fully responding to the tasks. They provide a well-argued idea of the importance of aphasia after ischemic stroke. The established correlations are going to be used in the early assessment of the severity and prognosis of the outcome of the disease, as well as to optimize therapeutic approaches in patients with acute hemispheric ischemic stroke.

3. Evaluation of contributions:

The 7 contributions mentioned in the dissertation are of original character and have scientific-theoretical and practical significance.

- **With original character:**

1. For the first time in our country a detailed analysis of the literature is made on the role of treatment with intravenous thrombolysis in patients with ischemic stroke in the left middle cerebral artery and the recovery of aphasia
2. For the first time in Bulgaria has been followed the degree of recovery of motor deficit and aphasia in patients with ischemic stroke at the third month from the onset of the disease
3. For the first time in our country a comparative analysis of the degree of recovery of motor deficit and aphasia was performed in patients with intravenous thrombolysis and in those without specific treatment.

- **With confirmatory character:**

1. The risk factors that could influence the outcome of thrombolytic treatment in relation to the recovery of aphasia have been identified

2. A patient profile has been determined for favorable recovery of aphasia during treatment with intravenous thrombolysis among patients with ischemic stroke
3. A profile of the patient with risk factors predisposing to more severe aphasia among patients with ischemic stroke has been determined
4. The role of the ART, AHS, ASPECT and NIHSS scales has been proven to be reliable tools for assessing aphasia and the prognosis of treatment with intravenous thrombolysis

The detailed description of the methodological setting, the in-depth analysis of the results and the indicated scientific-applied and scientific-theoretical contributions are reflected in the dissertation's creative activity related to the dissertation, which includes 3 publications in scientific journals, 2 of which she is the first author. There are also 6 scientific presentations (posters), of which 3 at national congresses and 3 at international ones.

The articles published in full text in connection with the dissertation work fully meet the quantitative criteria specified in the Law on the Dissertation of the Republic of Bulgaria and the internal regulations of the Medical University of Varna for publishing activity of the doctoral student. They reflect the deep interest of the doctoral student, not only in the theoretical aspects of the considered medical and social problem, but also in their application in neurological clinical practice.

4. Critical notes and recommendations for the dissertation:

I have none of these.

5. Conclusion:

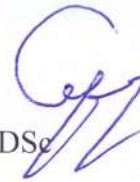
The dissertation submitted for review represents a certain theoretical and practical contribution to the Bulgarian neurological literature. Assessing the relevance of the topic, the importance of the summaries and the importance of these contributions, I propose to the esteemed Scientific Jury to award with educational and scientific degree "Doctor" Dr. Radina Svetlozarova Fuchidzhieva, PhD student in full-time training at the Department of Nervous Diseases and Neuroscience, medicine at the Medical University of Varna.

10.01.2022 г.

Varna

Reviewer:

Prof. Ara Kaprelyan MD, DSc

A handwritten signature in blue ink, consisting of a large, stylized initial 'A' followed by several loops and a final flourish.