

TO THE CHAIRMAN OF THE SCIENTIFIC JURY
AT THE MEDICAL UNIVERSITY "PROF.
DR. PARASKEV STOYANOV" – VARNA

REVIEW

by

Prof. Mario Draganov Stankev, MD, PhD

Clinic of Vascular Surgery and Angiology at the National Cardiology Hospital – Sofia

A dissertation on the topic:

**MODERN SURGICAL APPROACH IN VASCULAR ACCESS
FOR HEMODIALYSIS**

For the award of an educational-scientific degree "Doctor" in the field of higher education 7.
Health and sports, professional field 7.1 Medicine and scientific specialty "Surgery"

Martina Sasheva Sapundzhieva – Nikolova, MD – PhD student in the Vascular Surgery PhD
Program at the Department of Cardiovascular Surgery and Angiology at the Medical
University "Prof. Dr. Paraskev Stoyanov" – Varna

Scientific supervisor: Prof. Veselin Petrov Petrov, MD, PhD

The review was prepared according to the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria Law on Academic Staff Development at the University of Medsitsyn – Varna. The scientific jury for the public defense of the dissertation was appointed by an order of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna No P-109-265/23.05.2023

The dissertation submitted to me for review contains 144 standard typewritten pages and has the following structure:

Contents – 3 pages

Abbreviations used - 2 pages

Introduction - 1 page

Literature review - 45 pages

Purpose and tasks -1 page

Material and method - 7 pages

Own results - 33 pages

Discussion - 21 pages

Conclusions - 1 page

Contributions - 1 page

Literature - 27 pages

List of publications related to the dissertation-1 page

The dissertation work is illustrated with 30 tables and 34 figures. The list of cited literature includes 272 titles, of which 10 in Cyrillic and 262 in Latin.

Biographical data

Martina Sasheva Sapundzhieva-Nikolova was born on 09.09.1985yr. in Varna. He graduated with honors from the Third High School of Mathematics and Natural Sciences "Acad. Metodiy Popov" – Varna in 2004yr. In 2010yr she graduated in medicine from the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna. She acquired a specialty in "Vascular Surgery" in 2018yr. From 2011 to 2013yr she worked at the Clinic of Surgery at the Hospital "St. Anna" Varna. From 2012 to 2018yr she was a part of the medical staff of the Vascular Surgery Clinic at the Hospital "Sv. Anna." Since 2019yr. so far, she has been working as a vascular surgeon at the Vascular Surgery Clinic at the University Hospital "Sv. Marina" Varna, as of 2020yr she is an assistant at the Medical University.

Publications

On the topic of the dissertation, the doctoral student has published two publications in 2020yr. The scientific activity during the period of development of the dissertation is consistent with the regulatory requirements.

Timeliness of the dissertation

The dissertation work is devoted to a particularly topical problem in vascular surgery. The creation of vascular access is decisive for the possibility of conducting life-sustaining hemodialysis, as well as for its quality. Surgical methods are leading in providing the vital vascular access, reliable and long-term. The role of imaging methods in patients directed to build an arteriovenous pathway is undoubted. In our country there is no complex study of risk factors, preoperative selection in providing reliable vascular access. This makes the topic of the dissertation particularly relevant.

Literature review

The literature review is an in-depth and comprehensive analysis of contemporary publications by Bulgarian and foreign authors on the topic under study, which shows a very good knowledge of the novelties on the topic of the dissertation.

Purpose and objectives

The aim of the dissertation is defined precisely and clearly – to study and refine the optimal approach in patients on hemodialysis to create functional arteriovenous access. Six main tasks are formulated.

Material and method

The study analyzes a contingent of 85 patients with established surgical vascular access for hemodialysis. The patients are divided into two groups depending on the volume of preoperative training and the criteria for the selection of patients introduced in it. The control group covers the years from 2016 to 2018yr. and includes 37 patients, while the main group includes 48 patients for the period from 2019 to 2021yr. The distribution by age, gender, type of surgical vascular access, concomitant diseases, preoperative training – physical examination, imaging methods, type of complications are analyzed. Imaging consists of color-coded duplex sonography and computer-tomography-assisted angiography of vessels of the upper limb.

Results and discussion

The analysis of the results is structured in six chapters, which are illustrated with tables and figures. A comparative assessment of the two groups of patients by gender, age, type of surgical vascular access, concomitant diseases is presented. Their role in the choice of type of surgical hemodialysis access is evaluated. A comparative assessment of the volume of preoperative preparation in the groups is carried out. The characteristic of the complications that have occurred is analyzed. The role of preoperational preparation in the choice and success rate of access is studied. The attitude of postoperative oral therapy to incidence of complications is assessed. A detailed assessment of the one-year patency of the created arteriovenous accesses and the influencing factors is carried out.

The discussion includes 11 points and is consistent with the consistency of the study, commenting comprehensively on its results. A comparative analysis of own results with the modern world database is carried out.

Conclusions

The dissertation ends with seven clearly formulated conclusions that correspond as solutions to the tasks set. The importance of preoperative training and a set of factors for improving the selection and effectiveness of the created arteriovenous accesses is emphasized.

Contributions

Five scientific-practical contributions of a confirmatory nature of the doctoral student are accepted.

The autoreferate is structured according to the requirements, and its content fully corresponds to the dissertation.

In conclusion, I believe that the dissertation submitted for review, entitled "Modern surgical approach in vascular access for hemodialysis", is the author's own work. This work is characterized by precision, originality, comprehensiveness and persuasiveness. The results achieved undoubtedly contribute to practical work in the field of vascular surgery. The PhD student Martina Sasheva Sapundzhieva-Nikolova has in-depth theoretical knowledge, professional skills in vascular surgery, as well as qualities and skills for independent conduct of complex scientific research.

Based on the above, I give my positive assessment of the dissertation presented and propose to the members of the esteemed Scientific Jury to be awarded the scientific and educational degree "Doctor" of Martina Sasheva Sapundzhieva-Nikolova.

13.07.2023

Sofia

Reviewer:

Prof. Mario Draganov Stankev, MD, PhD

