

Review

on a dissertation on the topic:

Modern surgical approach in vascular access for hemodialysis

presented for public defense in front of the Scientific Jury for awarding the scientific and educational degree "Doctor", field of higher education: 7. Health and sports, professional field 7.1 Medicine and scientific specialty: "Surgery"

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The dissertation paper is written on 144 standard typewritten pages. The structure contains all the sections inherent in a similar work, as follows:

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 and contributions — 2 pages

Literature – 27 pages

List of publications related to dissertation - 1 page

The dissertation work is illustrated with 30 tables and 34 figures. The list of used literature includes 272 titles, of which 10 in Cyrillic and 262 in Latin. Most of the cited publications have been printed in the last 3 years.

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.

Timeliness of the dissertation topic

The dissertation work is devoted to a particularly topical problem in vascular surgery. The creation of vascular access is a prerequisite for the implementation of life-sustaining hemodialysis. Surgical methods are leading in providing reliable vascular access. The role of imaging diagnostic methods in patients aimed at building an arteriovenous pathway is undoubted. In our country there is no complex study of risk factors, as well as 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 dissertation.

Purpose and objectives

The aim of the dissertation is clearly formulated – to study and refine the optimal approach in patients on hemodialysis to create functional arteriovenous access. Six tasks are set in the study. Their decision focuses both on the importance of preoperative preparation in the selection of the most suitable arterio-venous access for hemodialysis, and on the role of a number of factors influencing the choice and durability of access.

Material and method

The dissertation is fully consistent in methodological terms.

The study includes 85 patients with end-stage chronic renal failure and established surgical vascular access for the period from 2016 to 2021yr. Patients are divided into two groups according to the scope and accepted criteria of preoperative preparation. The control group includes 37 for the period from 2016 to 2018yr, and the main group – 48 patients for the

period 2019-2021yr. Preoperative preparation is carried out through physical examination and imaging and diagnostic methods – color-coded duplex sonography and computed tomography-assisted angiography. The criteria for selecting the type of surgical vascular access from the preoperative preparation are specified.

Results

Within six chapters, the tasks set are developed. A comparative analysis of the two groups of patients is carried out by gender, age, type of surgical vascular access and concomitant diseases. Their role in the choice of surgical haemodialysis access is assessed. A comparative analysis of the volume of preoperative training is carried out and its role in the choice and success rate of access is studied. The characterization of the complications that occurred as well as the attitude of postoperative antiplatelet therapy to their frequency is investigated. A detailed complex assessment of the factors affecting the patency of arterio-venous access is developed.

The discussion is structured in 11 points in accordance with the sequence of the study and exhaustively comments on its results. Own results are compared with world literary sources.

The dissertation works ends with seven precisely and clearly formulated conclusions, corresponding to the results of the tasks set. The importance of a complex of factors in the selection and success of the created arteriovenous accesses for hemodialysis is emphasized.

The dissertation offers five scientific-practical contributions of a confirmatory nature. I accept that the dissertation is an author's work of the doctoral student and can contribute to the development of practical work in the field of vascular surgery.

The PhD student has published two scientific articles on the topic of the dissertation in 2020. This is in accordance with regulatory requirements.

Conclusion

The dissertation of Martina Sasheva Sapundzhieva-Nikolova on the topic: "Modern surgical approach in vascular access for hemodialysis" meets the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria. This is an up-to-date, well-planned and accomplished scientific work.

Due to the above, I give my positive assessment of the dissertation.

I propose that the honourable members of the Scientific Jury to award the educational and scientific degree "Doctor" in the scientific specialty "Surgery" to Martina Sasheva Sapundzhieva-Nikolova.

13.07.2023yr

Reviewer:



Sofia

Prof. Vasil Jordanov Chervenkov, MD, PhD