

REVIEW

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About the dissertation on:

"Application of the method of closed endarterectomy with distal fixation of the intima for thrombosis of the femoral artery"

for acquiring a doctorate degree in Higher Education 7 "Health and Sport", professional area 7.1.
Medicine

on

Dr. Alexander Tihomirov Daskalov,
PhD student and research associate III degree in specialty "Vascular surgery" at the Clinic of Vascular Surgery, Acibadem City Clinic Tokuda Hospital Sofia

About the procedure

By order of the Scientific Council of Acibadem City Clinic Tokuda Hospital Sofia, I was appointed as an external member of the scientific jury and reviewer of the dissertation of Dr. Alexander Tihomirov Daskalov, presented under the procedure for obtaining the educational and scientific degree "Doctor" in scientific specialty " Cardiovascular surgery ". I have received a complete set of materials that is in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the regulations for its implementation in the Acibadem City Clinic Tokuda Hospital Sofia.

Short biography of the PhD student

Dr. Alexander Tihomirov Daskalov was born on 10.02.1977. In 2002 he graduated as a doctor at the Medical University - Sofia. From January 2004 to November 2006 he worked as a resident physician at the Clinic for Vascular Surgery at St. Ekaterina University Hospital in Sofia. In December 2006 he started working at the Clinic for Vascular Surgery at the Hospital Tokuda Hospital Sofia - initially as a doctor - resident (December 2006 - May 2008), then as a specialist in "Vascular surgery" (May 2008 - December 2013), and since January 2014 has acquired a specialty in Vascular Surgery. Since April 2010, he has been working as a Research Assistant for the 3rd year in the field of Vascular Surgery at the same clinic. Dr. Daskalov is a member of BMA and of the Bulgarian National Association for Vascular Surgery and Angiology (BNDSEHA).

The relevance of the problem

Peripheral arterial disease (PAD) is a serious medical problem that engages the attention of different specialists due to the variety of risk factors for its occurrence and the development of an optimal therapeutic strategy. The treatment of PAD is primarily the subject of vascular surgery. Due to the high operative risk in patients with arterial occlusive disease, most often conditioned by the elderly and concomitant chronic diseases, the need to seek the most sparing methods of revascularization is increasingly clear. Significant

efforts have been made in this area in recent years. Various operational techniques are being applied, and their refinement, refinement of the indications and critical analysis of the achieved results continue to be the subject of large-scale prospective studies. The need for additional knowledge and experience in this field is obvious, which underlines the relevance of such developments, such as the dissertation submitted to me for review by Dr. Alexander Daskalov.

The main subject of the study was the procedure for closed femoral artery endarterectomy with distal fixation of the intima. It is a less invasive alternative to bypass surgery and has been shown mainly in the treatment of long-term AFS occlusions (type D according to the TASC II classification), in which current endovascular treatment has not yielded sufficiently good results to date. The topic is extremely relevant and of indisputable practical and scientific interest.

Characteristics and evaluation of the thesis

The dissertation is written on 157 standard pages. It is structured in the accepted manner in the relevant sections.

The 2-page introduction clearly outlines the reasons for the dissertation research.

The 32-page literature review provides a comprehensive and comprehensive overview of the major contemporary research in the area of dissertation work. Efforts to elucidate the main risk factors for the occurrence of PAHs are monitored. The achievements on which the diagnosis and modern treatment of this disease are based are clearly outlined. The advantages and disadvantages of the surgical methods used are shown, as well as the problems, which are still to be solved. The analysis of the literature impresses with its thoroughness, shows excellent awareness and convincing competence in interpreting the data of different authors.

The Research Methodology section covers 20 pages. It outlines the purpose and objectives of the study, characterizes the clinical material, and details the methods used.

The aim is to determine the possibilities of application, the possible advantages and disadvantages of the closed endarterectomy method with distal fixation of the intima for thrombosis of the femoral artery. For its implementation the dissertant sets the following tasks:

1. Retrospective study with statistical analysis of the results obtained in two groups of patients: a main group consisting of patients operated on by the closed endarterectomy technique of AFS with distal fixation of the intima, and a control group composed of patients with the same profile who had Knee-pelvic bypass with polytetrafluoroethylene (PTFE) prosthesis graft performed.
2. Comparative analysis of the data from the two groups.
3. Analysis of the advantages, disadvantages and complications of the method of closed endarterectomy with distal fixation of the intima.
4. Determining the optimal algorithm for performing this surgical procedure.
5. Determination of criteria for selection of patients suitable for its implementation.

The study included 137 patients with operated 141 limbs. The main group consisted of 65 patients (68 limbs) and the control group consisted of 72 patients (73 limbs). All surgeries were performed at the Clinic for Vascular Surgery and Angiology of the AJIBADEM CITY CLINIC MBAL TOKUDA for the period 01.01.2009 - 01.10.2017.

The author participated in 47 (69.11%) of patients' operations in the main group as an operator, and in 12 (16.21%) of the operations in the control group, as an assistant.

The clinical material is characterized in detail, with very good visualization. The inclusion and exclusion criteria are clearly presented.

Examination methods include anamnesis, instrumental diagnostic procedures (step-brachial index measurement, duplex scanning, computed tomography angiography), and application of the two above-mentioned surgical techniques (closed endarterectomy of AFS with distal fixation of the intima, and supercapillary phyto-femoral angiography), bypass with polytetrafluoroethylene (PTFE) prosthetic graft). The surgical methods are described in detail and with numerous colored illustrations that give an extremely clear idea of the work done. The author describes and analyzes in detail the possible complications.

In processing the data, a wide range of modern and relevant statistical methods was used. A thorough statistical analysis makes it possible to draw the most accurate and clear conclusions. An impressive number of clinical indicators and parameters have been monitored, which are consistent with the study design and provide comprehensive information in completing the tasks.

The results are presented on 68 pages. In the main group of patients, preoperative indicators of gender, age, country of intervention, stage of HANK, accompanying diseases and risk factors, presence of contralateral postischemic amputation, number of persistent popliteal arteries, average diameter of AFS, length of occluded area, were monitored -Brachial index before primary surgery. The intraoperative parameters analyzed include operative time, stent length, presence and type of patch applied, simultaneous profundoplasty, simultaneous proximal reconstruction, simultaneous distal reconstruction, intraoperative complications, type of anesthesia applied. The following postoperative indicators were studied: complications in the postoperative period, hospital stay, stage of HANK after primary surgery, perioperative mortality, total mortality, early retrombosis, primary patency, presence of established restenosis, presence of established retrombosis, stage, conversion, assisted primary patency, secondary patency, major amputation, loss of foot tissue. Factors affecting the survival of arterial reconstruction to the onset of restenosis and retrombosis have been monitored and analyzed. The results observed in the main and control patients were compared. The results of the statistical analysis are shown in detail and are very well illustrated in a large number of tables and colored figures. The total number of the tables contained in the dissertation is 54, and in the figures – 51.

The discussion is presented on 9 pages. It provides an in-depth and critical analysis of the data obtained, which proves that closed endarterectomy of AFS with distal intima fixation is an effective and minimal risk operative procedure for the treatment of patients with PAH. A detailed comparison of the treatment results in the main group of patients with those in the control (bypass group) reveals certain advantages of the closed endarterectomy method and allows to specify the indications for its application. The data obtained are compared with those published in the available literature, with interesting and complementary coincidences emerging. Again, some still controversial and unresolved issues in the treatment of PASD are highlighted, which proves the need to further enrich the knowledge and experience in this current and perspective field of modern medicine.

At the end of the dissertation, eight conclusions (two pages) are formulated which, in a synthesized form, express the well-done work. The reviewer approves the conclusions fully drawn.

The contributions presented on one page are 4 in number and have scientific and applied importance. I accept the contributions of the dissertation as well as the conclusion made at the end.

The bibliography is rich and up-to-date. It is presented on 18 pages and includes 175 sources, 4 of which are in Cyrillic (Bulgarian authors) and 171 in Latin. Most of the cited sources are from the last 20 years. In the bibliographic reference there are no literary sources that are not mentioned in the text.

Critical notes and recommendations

I have no remarks and recommendations for the dissertation submitted and the abstract.

Conclusion

The presented dissertation on the topic "Application of the method of closed endarterectomy with distal fixation of the intima in thrombosis of the femoral artery" is distinguished for its relevance and practical orientation. The results obtained impress with the wealth of data and their conviction. The discussion reflects very good literary awareness, high professional competence and a wealth of clinical experience. Among the abundance of data, the dissertation manages to highlight the most important and, on the basis of them, after thorough and critical analysis, be able to make important clinical findings. The contributions made at the end of the thesis are of great value and are a good guide for choosing the right surgical approach for patients with severe PAD.

The dissertation fulfills the requirements and the scientific criteria, which gives me a reason to suggest to the distinguished Scientific Jury to vote positively for the award of the Doctor's degree of Dr. Alexander Tihomirov Daskalov.

20/01/2020

Sofia

Reviewer: 

/ Prof. Mario Draganov Stankev MD, PhD/