

OPINION

from

Prof. Dr. Vasil Yordanov Chervenkov, Ph.D. ,

Head of the Clinic of Vascular Surgery
to Acibadem City Clinic Hospital
Tokuća Sofia

Chairman and internal member of the Scientific Jury
According to the order: № 19-06 / 10.01.2022

for obtaining the educational and scientific degree "Doctor of Philosophy"

In the field of higher education 7. "Health and Sports", professional field 7.1 "Medicine"
and scientific specialty "Cardiovascular Surgery", code 03.01.49

with topic:

"Surgical pulmonary thrombectomy as a method of treatment for acute pulmonary embolism"

of Dr. Assen Stefanov Keltchev

Brief biographical data

Assen Stefanov Keltchev graduated from high school in 1997 at 125 Boyan Penev High School. Graduated in medicine at the Medical University of Sofia in 2004. Since 2004 he has been a volunteer associate at the Cardiac Surgery Clinic at St. Ekaterina University Hospital. In 2005 was appointed a resident doctor at the same clinic, where he worked until April 2007. In May 2007 he started working as cardiac surgery resident at the Department of Cardiac Surgery at Tokuda Hospital in Sofia. Acquired the specialty "Cardiac Surgery" in 2013. In 2018 he completed a master's degree in health management at SWU "Neofit Rilski". In 2018 acquired the specialty "Vascular Surgery". From May 2018 heads the Department of Cardiac Surgery at Acibadem City Clinic Cardiovascular Center EOOD. From 2019 is a part-time assistant at the Medical Faculty of Sofia

University "St. Kliment Ohridski". Married, has one child. He speaks French and English.

According to the procedure:

The regulations of the Law for Development of the Academic Staff in the Republic of Bulgaria (RASRB) and the Regulations for its application in Acibadem City Clinic Tokuda Hospital Sofia, respectively - the clauses for obtaining the educational and scientific degree "Doctor of Philosophy".

I. Structure of the dissertation

The scientific work of Dr. Asen Kelchev is formed on 149 pages according to the requirements and contains: introduction, literature review, research methodology with goals and objectives, materials and methods, analysis of results, discussion, conclusions and recommendations, bibliography. The dissertation material is illustrated with 50 figures and 43 tables. The bibliography includes 242 literary sources, of which 10 in Bulgarian and 232 by foreign authors, arranged in alphabetical order. Dr. Kelchev has formulated 5 tasks, covered and studied a statistically significant contingent of 100 patients with acute pulmonary embolism who underwent reperfusion therapy. Fibrinolysis was performed in 36 patients and surgical thrombectomy in 64 patients. After analyzing the data, 15 conclusions were made, on the basis of which relevant recommendations and contributions were made.

II. Relevance of the dissertation

Acute pulmonary embolism is a socially significant disease, ranking third in mortality in the modern world. The aging of the population, as well as the advancement of medicine in the treatment of cardiovascular and oncological diseases, increases its frequency even more. There are a number of point systems for predicting the risk of death in this disease, based on laboratory, clinical and anamnestic data. Thus, patients with acute pulmonary embolism are divided into groups, with reperfusion therapy recommended in high-risk patients, and in patients with high intermediate risk, this type of therapy is indicated in exacerbation of right ventricular dysfunction. In the present study, a comparison was made between these two main types of reperfusion therapy in terms of complications and mortality. Comparing drug therapy with surgery is a difficult task due to the invasiveness of any surgical method. The results of the study show a similar safety profile of the two types of therapy in terms of mortality. The proposed algorithm, as well as the

construction of a specialized multidisciplinary team aims at an optimal therapeutic approach for each individual patient suffering from this socially significant disease.

III. Analytical characteristics of the dissertation

In his study, Dr. Keltchev aims to determine the criteria for selecting patients suitable for surgical pulmonary thrombectomy, as a method of treatment for acute pulmonary embolism (PE) in order to improve the prognosis and reduce mortality from this disease, to achieve this goal, five tasks related to preoperative selection of patients and the type of reperfusion therapy, intraoperative behavior with regard to anesthesia and surgical techniques, and postoperative treatment must be performed. In the course of the study the results of the two types of reperfusion strategy were thoroughly analyzed, the groups were compared by demographic and clinical indicators, the complications of the procedures themselves were considered and the mortality was paid attention. Analyzing the group of patients with fibrinolysis, it was concluded that the patients were younger and with a lower incidence of hypotension than the group with surgical thrombectomy. Mortality in this group is not directly related to fibrinolysis. In the surgical arm, it was concluded that in all patients who died, death occurred within seven days of hospitalization, ie. mortality is directly related to the procedure. Adverse events are analyzed in detail and recommendations for their prevention are given. Another important finding is that treating patients with chronic thromboembolic pulmonary arterial hypertension with conventional reperfusion therapy does not improve the clinical course of the disease. Preoperative hypotension and tachycardia, duration of extracorporeal circulation, catecholamine infusion due to right ventricular dysfunction, and the development of multiorgan failure have been noted as predictors of death in the surgical arm.

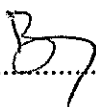
Dr. Kelchev has presented two publications and has registered participation in three scientific forums related to the dissertation.

IV. Conclusion

The dissertation of Dr. Asen Stefanov Kelchev is a completed study dedicated to a clinically significant problem related to the diagnosis and optimization of treatment of patients with acute pulmonary embolism. This work has the necessary qualities - significance, scope, originality and depth, which makes its author worthy of obtaining the degree of "Doctor of Philosophy". The conclusions and contributions of this dissertation should be presented and published in national and foreign scientific forums and journals. Based on the above, I recommend the esteemed members of the Scientific Jury to

evaluate with dignity and as meeting our national and European criteria for quantity and quality, dissertation of Dr. Assen Stefanov Keltchev, and to vote positively for his award with the educational and scientific degree "Doctor of Philosophy", field of higher education 7. "Health and Sports", professional field 7.1. "Medicine" and scientific specialty "Cardiovascular Surgery".

31.01.2022

Prepared the opinion: 

/ Prof. Dr. Vasil Yordanov Chervenkov, MD /