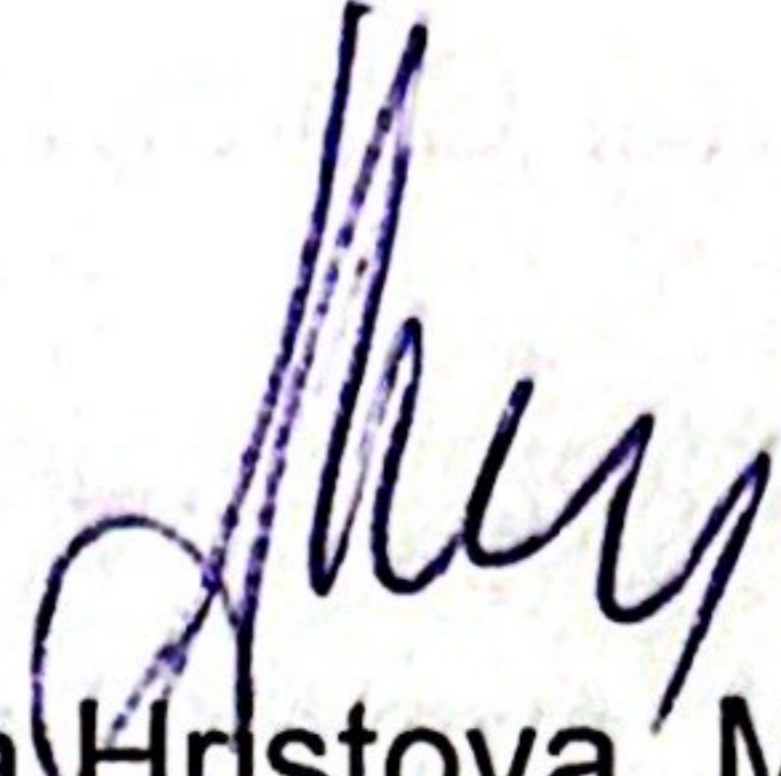


31.10.2023

Assoc. Prof. Krasimira Hristova, MD, PhD



I have not found any gaps in the documentation submitted by Dr. Yassen Getsov, the requirements of all Governmental Legislations and the Regulations for the terms and conditions for acquiring scientific degrees and occupying academic positions have been met.

I have no conflict of interest from my participation in the scientific jury.

Conclusion

The dissertation work of Dr. Getsov develops an important topic for Bulgaria and who is related to the application of highly specialized echocardiographic method in the conditions of ECC. A large volume of work was carried out - a sufficient number of patients were examined in conditions of cardiac surgery. The obtained results have both scientific value and clinical significance and allow the use of these indicators as a way to introduce a standard for performing TOE preoperatively and intraoperatively with a view to reducing the frequency of complications in these patients and shortening their stay in cardiac surgery.

The study introduces this research methodology, as a possibility to be performed not only by certified cardiologists at an expert level, but also as a standard and requirement for anesthesiologists working in cardiac surgery departments to be trained and certified for iTOE. The goal has been achieved, the set tasks have been completed. The conclusions are sufficiently clearly formulated. The contributions have not only scientific but also practical value.

All this gives me reason, regardless of all my the critical remarks, to propose to the respected members of the scientific jury to vote positively for awarding with the educational and scientific degree "Doctor" to Dr. Yassen Getsov.

3. For the first time in our country, a model has been introduced to reduce the frequency of postoperative complications by applying iTOE.
4. For the first time, iTOE is applied in our country to reduce complications after deaeration of the heart during cardiac surgical interventions.
5. Recommendations are given that can be summarized in the quality of preoperative diagnosis of patients and strongly application of European and world standards in preoperative and intraoperative assessment of patients.
6. For the first time in our country, an attempt was made to conduct this type of diagnostic examination by an anesthesiologist who is part of the cardiosurgical team, which is invaluable in terms of knowledge of hemodynamic changes in ECC conditions.
7. For the first time in Bulgaria, a protocol was made for intraoperative TEE according to the cardiovascular risk.

The conclusions drawn are complete and summarize the results presented in detail. They correspond to the goals and objectives set by the dissertation student.

There are 7 contributions of a confirmatory nature.

The bibliography contains 135 titles, 5 of which are unacceptable due to the use of Wikipedia and Google, 11 of which are by Bulgarian authors, 18 of the publications are from the last 5 years. The lack of style in the citations is striking.

Dr. Getsov has no publications related to his dissertation work. He has 3 publications in Bulgarian journals, of which he is the first author in only 1. There are 3 participations in international congresses and 6 in Bulgarian scientific symposia and congresses.

The abstract meets the requirements of the law on the development of academic personnel.

is on a global scale - with data from 1995 around 33%, in the year 2009 from 4 to 15% in Europe and the USA, which can be explained by the mandatory recommendations for patients to be precisely analyzed preoperatively with TOE, MRI, CAT and the role of the HEAR TEAM, which determines the scale of the upcoming surgical treatment.

An interesting approach is to perform TOE in open surgery in order of deaeration the patient and reduce postoperative complications.

The analysis of the results, which are visualized with diagrams, is interesting, but there is no information on the specificity and sensitivity of the data, and the statistical methods which are used, can give very good information in this direction.

In the "Discussion" section, a very weak comparison of the obtained results is made in comparison with the literature data. Much more emphasis could be placed on comparing these data with different types of operational interventions and what is being implemented globally.

The dissertation ends with 11 conclusions, which should reflect the most essential part of the results. Some of these conclusions are unacceptable because they are already described by the published EACVI and ASE guidelines – conclusions 1 and 2, conclusions 4 and 6 overlap, and 9 and 11 are not sufficiently clearly stated.

Dr. Getsov has made important original contributions to the science and practice:

1. For the first time in Bulgaria, a study is being done on the application of iTOE and what is the effect of changing operational behavior.
2. Identification of "risk patterns" of behavior and treatment according to iTOE, which led to a change in the pattern of behavior.

ultrasound wave, properties of ultrasound, focuses quite broadly on the various echocardiographic techniques, many of which are not current in modern echocardiography, as well as unapplicable to TOE. It is noteworthy that the anesthesiologist's commitment to this type of research, which in the conditions of the ECC, should really be carried out by an intensivist/anesthesiologist familiar with the real hemodynamic change in the conditions of the ECC.

Dr. Getsov is an anesthesiologist with considerable experience with TOE in the ECC setting. A weakness of the literature review is the lack of focus on the main problem defined by the topic of the dissertation - how does intraoperative TOE contribute to changing operative tactics, a problem that is quite widely discussed in the medical literature. A weakness of the review is the lack of focus on the main problem defined by the topic of the dissertation - how does intraoperative TOE contribute to changing operative tactics, a problem that is quite widely discussed in the medical literature.

The literature review does not end with summary conclusions to define the unclear and unsolved problems before intraoperative TOE and the hypothesis to be proven in the development of the results and having an effect on the long-term prognosis in these patients. Development of an algorithm of non-invasive evaluation indicators facilitates the clinician regarding the prognosis and behavior of patients undergoing cardiac surgery.

In the "Aim and tasks" section, the purpose of the study is formulated - to establish the clinical value of intraoperative TOE and its prognostic significance for patients undergoing cardiac surgery. For the realization of this goal, 9 tasks have been set.

In the "Material and method" section, 183 patients who were included in the dissertation work are described, in 3 patients TOE was not performed due to the presence of

contraindications for this type of diagnosis, which should not be included in group researched subjects .

The control group (no information about the number of examined patients here) is from retrospectively selected patients in 2017 who did not receive intraoperative TOE. The TOE methodology, which was presented in the literature review, is again described in detail in this part.

The description of the statistical analysis used, as the SPSS 20.0 program was used for this purpose, should be in the "Material and method" section, as some of the described tests are not applicable to the groups of patients presented in this way.

In the "Results" chapter, the demographic characteristics of patients and control group are successively presented. Correlations of changes in the process of using intraoperative TOE in various clinical conditions – mitral stenosis, aortic stenosis, mitral and aortic regurgitation, as well as in patients with ischemic dilatative CMP were examined. The changes in which the TOE has led to a change in the operative protocol, as well as the difference in reducing the duration of the inpatient stay, are presented in detail. It is noteworthy that the comorbidities of these patients are not described, which reflects the length of stay and the complications of ECC.

The statistics conducted for the patients in whom there was a change in the operative plan is interesting - 56% of the patients had a change in in operative plan versus 44% - without a change in the operative plan, which shows a major problem of our healthcare system - the lack of criteria and ignorance and non-application of the European recommendations for preoperative evaluation of these patients. There is a lack of information on preoperative TOE performed at this or other centers, which would lead to better comparability of results. It is an interesting fact that shows what the trend

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BIOGRAPHICAL DATA.

Dr. Yassen Getsov is graduated from the Medical University of Sofia in 1999. He has a specialty in anesthesiology and intensive care since 2006 and health care management since 2009.

Dr. Getsov began his work experience in 2000 as a resident doctor at UMBAL "St. Ekaterina", where he worked for 7 years, acquired a specialty in anesthesiology and intensive care in 2006, from 2007 until 2013 he is an anesthesiologist at Tokud Hospital, Sofia, and since 2013 he is an anesthesiologist head of the Cardiac Surgery Clinic, "Adjibadem City Clinic UMBAL" – EOOD, since 2013 he is an anesthesiologist at the Cardiac Surgery Clinic, "Adjibadem City Clinic UMBAL" - EOOD. Since 2011 until 2012 he conducted a fellowship program at the University Hospital, Southampton, 2017-2018 he worked as a resident doctor there.

Dr. Getsov is a member of the Society of Anesthesiologists in Bulgaria and is a certified TOE specialist by the European Association of Cardiovascular Imaging /EACVI/.

Dissertation work

Dr. Getsov's topic of changing the operative technique after intraoperative echocardiography is relevant in terms of improving the quality of operative treatment and the prognosis of patients referred for valve surgery in Bulgaria. The dissertation is written on 100 pages and contains 10 main tables and 84 figures. The arrangement is in the following sequence: Contents, Abbreviations used, Introduction, Literature review: 92 pages and objectives: 1 page, Method and material: 7 pages, Results: 29 pages; Discussion: 1 p.; Conclusion 1 p., Conclusions: 1 p., Indications and contraindications, algorithm. The Chapter Review examines the history of the discovery of ultrasound, p. 10.

Standpoint

by Assoc. Prof. Krasimira Hristova, MD, PhD,
Center for Cardiovascular diseases, Sofia
"Nadezhda" Women's Hospital, Sofia

Regarding

The defense of a dissertation for awarding the academic position "Doctor" in the scientific specialty "Medicine", on the topic "**Changes in operative tactics based on intraoperative transesophageal echocardiography**", based on Order No. 10-07-33#5 /26.07.2023 for inclusion in the composition of the "Scientific Jury" at "Ajibadem City Clinic UMBAL"-EOOD regarding procedure for the public defense of a dissertation work of Dr. Yassen Getsov - a doctoral student of an independent form of study in the specialty "Medicine".

Author: Dr. Yassen Stanimirov Getsov,

anesthesiologist at the Cardiac Surgery Clinic at "Ajibadem City Clinic UMBAL"-EOOD, Sofia

Scientific supervisors: Prof. Dr. I.Petrov, MD, Ph.D

Assoc. Dr. M. Belitova, MD, PhD

The procedure for announcing the tender is in accordance with the requirements of the law. The dissertation is scheduled for defense after a preliminary discussion with the right to defense of the Scientific Council at "Ajibadem City Clinic UMBAL" Ltd, Order N 11-07-33#4/25.07.2023 and Protocol N 18/19.072023. Development of the presented dissertation by Dr. Getsov was started in 2021 and completed in February 2022.