

REVIEW

Regarding a procedure for holding an academic position "ASSOCIATE PROFESSOR" in the professional field 7.1. Medicine, Specialty "CARDIOLOGY", requested by the First Department of Internal Medicine, Faculty of Medicine, MU "Prof. ParaskevStoyanov "- Varna and Second Clinic of Cardiology - non-invasive, University Hospital " St. Marina "EAD - Varna, announced in SG, issue 17 / 26.02.2021

Candidate - one: Dr. Lilyana Georgieva Mircheva, MD, Chief Administrative Assistant at the First Department of Internal Medicine - Board of Cardiology and cardiologist at the Second Clinic of Cardiology - non-invasive, University Hospital "St. Marina"EAD - Varna.

Reviewer: Prof. Dr. Nikolay Yordanov Penkov, PhD, Executive Director of SBALK - Varna, Bulgarian Institute of Cardiology.

Dr. Mircheva was born on July 31, 1979. She graduated from the Medical University of Varna in 2004. After graduating she worked as a doctor in ET "AIPPMP Dr. Georgieva" until October 2006. Since June 2007 she has been appointed as a doctor in the Cardiology Clinic at the University Hospital "St. Marina". In February 2013, after a successful exam completion, she became an assistant in the First Department of Internal Medicine, Management Board of Cardiology, and since June 2018 she has been a chief assistant.

Dr. Mircheva is fluent in German and very good in English.

Acquired specialties: Board exam in Cardiology in 2013.

Postgraduate training and specializations: Specialization in the field of HF, 2014-2015, Zurich, Switzerland; Specialization in "Transesophageal echocardiography", Nat. Cardiology, Sofia, 2017 and many other short-term

national and international specializations in different contemporary issues in cardiology. She has also acquired the following important certificates: European Specialist in HF, echocardiography - fundamental and expertlevel, and a number of other certificates from short-term courses at home and abroad.

Acquired scientific degree. In 2017, Dr. Mircheva defended successfully a dissertation for obtaining the educational and scientific degree "Doctor". The topic of her medical degree was "Optimizing the care of patients with heart failure after discharge"

Membership and positions in scientific organizations: She is a member of the Society of Bulgarian Cardiologists, the European Society of Cardiology, the Heart-Lung Association - Varna, the Bulgarian Society of Echocardiography.

Research activity: Dr. Mircheva participates in the competition for the academic position of "Associate Prof. of Cardiology" with a total of 53 scientific papers distributed as follows:

Production covering the minimum scientometric requirements for acquiring of AP "Associate Prof":

Dissertation for obtainig a scientific and educational degree "Doctor" (1 Pc.), monograph (1 pc.) and publications in scientific journals, referenced and indexed in world databases (10 pcs.).

214.00 p.

Full-text publications, outside the minimum scientometric requirements (8 pcs.).

45.25 p.

Scientific papers used in acquiring of AP "Chief assistant" (5 pcs.)

Publications presented upon acquisition of the educational and scientific degree "Doctor" (2 copies)

30.00 points **Publications** in journals with IF (8 copies)

General IF 57.066

Chapters from monographs.

Articles total 2 pcs.

Participation in Nat. and international scientific forums (16).

In 4 of the presented works Dr. Mircheva is the sole author, in 12 - first, in 2 - second, in 3 - third, and in the remaining fourth or subsequent. These data show that in the scientific production of the competition for AP "Associate Prof." it has a decisive role.

The scientific fields in which Dr. Mircheva has contributed are the following:

1. Heart failure. An analysis was made and the place of active outpatient monitoring in patients with HF was scientifically substantiated in order to evaluate the results of the applied treatment and the prevention of early rehospitalizations. As a result, a model for post-hospital monitoring of patients has been proposed, including demographic, clinical, biochemical indicators and functional assessment tests. The reasons for the early rehospitalizations of the patients are revealed and the ways to deal with the problem are indicated. The benefit of the 6-minute walking test to assess the functional capacity of patients with HF was shown and a correlation was found between the meters traveled and the levels of natriuretic peptides. The advantages of BNP as a major, hemodynamic marker are highlighted, as well as the ability to monitor congestion levels through it. The main causes and pathogenetic mechanisms of cardiac congestion and methods for clinical evaluation and drug response are described. The potential role of ivabradine to reduce rehospitalizations and mortality in patients with acute HF has been reported. The efficacy and safety of furosemide and torasemide in long-term intravenous infusion in patients with

severe HF were compared. The experience of the clinic in the treatment of patients with HF by means of extracorporeal ultrafiltration is shared. The link between depressive syndromes and HF in adult patients has been shown and a test has been developed to assess these conditions.

2. Cardiooncology. The disorders in the pump function and the mechanisms that determine it in the treatment of patients with oncological drugs are described.

3. Infectious endocarditis. A review of the European recommendations from 2009 for the diagnosis, treatment and prevention of infectious endocarditis has been made, and the practical experience of the clinic has been adapted to them. Emphasis is placed on hygiene measures in the prevention of this disease and a rare case of endocarditis caused by *Candidobacterium hominis* is presented.

4. Hyperuricemia. An epidemiological study was conducted and a relatively high incidence of hyperuricemia was found among the Bulgarian population. A study of hyperuricemia in patients with HF was performed and the possibility of drug inhibition of xanthine oxidase in the presence of high urate levels was examined.

5. Iron deficiency. The frequency of iron deficiency in patients with HF was studied and its significance for the prognosis was checked. Early correction of iron deficiency is recommended in order to control HF more quickly and effectively.

6. Valve diseases. The analysis of the main types of degenerative diseases of the mitral valve is made and the clinical manifestations, diagnostics and methods of treatment are considered.

7. Imaging diagnosis of ischemic heart disease. The place and importance of computed tomography coronary angiography in the diagnosis of non-obstructive and obstructive coronary heart disease are considered.

8. Pulmonary thromboembolism. An overview of the causes, clinical picture, diagnosis and treatment of pulmonary thromboembolism is presented.

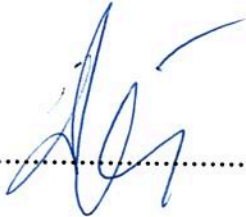
Citations, reflecting the scientific activity of the candidate: A total of 7 citations of Dr. Mircheva's scientific works have been found in the literature. According to the list shown, these are 6 works, of which 1 is cited twice and the remaining 5 once. In this situation, with a total score of 50 points, the candidate meets the minimum requirements for acquiring the AD "Associate Professor". The candidate has active scientific accounts in: Google Scholar and ORCID.

Teaching activity. According to the data from the presented Certificate of MU - Varna 099-840 / 17-03.2021, Dr. Mircheva has a teaching experience of a total of 8 years, 1 month and 3 days, and its total study load in the last 5 years is an average of 176.4 hours per year.

Participation in scientific projects. Dr. Mircheva has participated as a co-researcher and coordinator in a number of multicenter national and international studies phase 3 and 4 concerning the diagnosis and treatment of patients with HF, ACS, atrial fibrillation and others.

CONCLUSION. Dr. Mircheva is a very well-trained doctor - a well-established specialist in cardiology with a total work experience of about 16 years, of which - 14 in a specialized University Clinic. She uses all non-invasive methods in cardiology. She is an excellently trained echocardiographer with extensive practical experience. She has a special training in HF problems and has a certificate for this from a prestigious University Center in Europe. The main part of Dr. Mircheva's scientific activity is dedicated to HF. Her achievements in the attempt to optimize the care of patients with HF after discharge are significant, as the place of active monitoring has been scientifically substantiated in view of more effective therapeutic results and reduction of the number of rehospitalizations. This makes Dr. Mircheva one of the leading specialists and consultants in our country on this important cardiac problem. The total number of presented scientific developments is completely sufficient

and with an assessment exceeding the mandatory minimum. The publications with impact factor and are equal to a total of 57,066. She is a member of the most popular Bulgarian and international scientific societies in the field of cardiology. She has participated in numerous national and multinational clinical trials as a co-researcher and coordinator. She is fluent in written and spoken German and English. The required study load is sufficient –she participates in the training of students and interns. My personal impressions of Dr. Mircheva as a doctor, lecturer and researcher are excellent. I believe that she fully covers all the requirements for the academic position of "Associate Prof. of Cardiology". Therefore, I will be voting positive, and I recommend that the other members of the Scientific Jury do the same.

June 8, 2021. Reviewer:  Varna (Prof. Dr. Nikolay Penkov, PhD)