

REVIEW

by Prof. Dr. Krassimira Kisyova, MD, MU-Varna

Re. - A contest for the academic position "Associate Professor" in the field of higher education. "Health and Sports" professional trend. Medicine.

Specialization: "Pneumology and Phthysiology" to Dr. Darina Nikolova Miteva-Mihailova, MD

Dr. Darina Miteva was born in 1965. In 1984 she graduated from the 1st Language High School with German language teaching - Varna; and in 1990 she graduated from the Medical University - Varna with a specialty "doctor"; in 2009 she defended a Master's degree in Health Management at MU-Varna; in 2016 she became a "Doctor of Medicine", specializing "Pulmonary Diseases". **Qualifications:** Certificate for intensive care of pulmonary diseases; Certificate in Bronchology - conventional bronchoscopy. **Specializations:** 1997- Internal diseases; 2001- Pneumology and phthysiology; Following the professional route of Dr. D. Miteva, it is distributed between Military Hospital (MH) -Varna and General Hospital for Active Care (GHAC) "St. Marina": 8 years MH, 6 years and 6 months. Intensive Care Unit - "St. Marina "; 4 years MH; From 17.10.2011 to 28.06.2017 she was an **Assistant at the Educational and Scientific Sector** in Pulmonary Diseases and Allergology; Since 28.06.2017 and currently she has worked as chief assistant at the Clinic of Pneumology and Phthysiology;

Academic progress: After her doctoral studies 2015/2016, she defended her thesis on the topic: "Role of comorbid diseases and some biochemical markers in determining the severity and prognosis of community acquired pneumonia. (CAP)

Publications: - Monograph - 1 with a volume of 254 pages - Full-text articles-37 Abstracts published abroad in journals and IF- 8 pcs. - Participation in scientific forums: - in Bulgaria 24, abroad 12; - **Participation in research projects** - 1 acc= to the Science Fund; **Guided classes in Pulmonary Diseases** (8 years and 8 months) with a workload per year on average for the last 5 years - 238.8 hours.

She is a member of: the Scientific Association on Pulmonary Diseases, ERS, Heart-Lung Association. Languages for communication - English, German, Russian.

Scientific evaluation indexes:

1. IF- referenced and indexed editions Scopus / WOS-162 (of which 77.125 for Chief assistant).
2. Citations (IC) - Citation or review in scientific editions, referenced indexed in world-renowned databases with scientific information or in monographs and collective volumes-4; -citations or reviews in non-referenced journals with scientific review-4 (total 8).

In this competition Dr. D. Miteva participates with: total publication activity of the candidate 47 works; of which 11 for the occupation of the Academic Position of "Chief Assistant" and **which do not participate** in the present competition, in which 36 scientific papers are presented. Apart from the evidence for meeting the minimum requirements (23 publications), 5 full-text publications in Bulgarian editions and 8 published abstracts in foreign editions with IF are presented. Distribution of publications by type: - monograph 1 issue - thesis paper 1 issue - publications in editions 34 issues .. Publications in Bulgarian are 21, - publications in English 15 issues, of which 5 are full-text publications in foreign editions, 2 full-text in Bulgarian editions, publishing in English and 8 abstracts in foreign editions with IF. Dr. D. Miteva is an **independent author of 6 of these publications (16.7%)**; **she is a co-author of 30, of which the first author in 18 publications (50%)**; **second author in 4 (11.1%)**; **subsequent author in 8 (22.2%)**; **A total of 24 publications (66.7) are presented as the sole and first author.**

Even according to this indicator, Dr. D. Miteva has met the minimum requirements for the scientific degree "Associate Professor".

Main scientific directions of the works:

1 . Pneumonia

1. A. The role of concomitant diseases in the course and outcome of community-acquired pneumonia (CAP)

1. B. Importance of biomarkers in determining the severity and prognosis of community-acquired pneumonia

1. C. Complications of pneumonia and other respiratory infections

1. D. Other aspects of pneumonia - assessment of severity scales, treatment, mortality analysis, nosocomial pneumonia

2. Bronchoobstructive diseases

2. A. Chronic Obstructive Pulmonary Disease (COPD)

2. B. Bronchial asthma

3. Pulmonary thromboembolism

4. Other

DIRECTION 1 Pneumonia:

1. A The role of concomitant diseases in the course and outcome of CAP.

Pneumonia is a significant health problem and will remain one of the main topics on the agenda not only for pulmonologists and medical specialists from different fields, but also from the society as a whole. CAP are often a disease with a high level of morbidity, hospitalization and, despite the success of antibacterial therapy, high mortality. Well-established severity assessment scales, imaging studies and biomarkers support the stratification of patients into different risk groups, but clinical judgment is always leading. Concomitant diseases undoubtedly aggravate the course of the disease and worsen the prognosis. For the first time in Bulgaria the

author makes an in-depth and systematic analysis of the impact of the most common socially significant diseases on the course and prognosis of CAP. Dementia, metastatic carcinoma, Cerebrovascular disease and Chronic Renal Failure have been shown to have the highest risk for CAP influenced mortality. Diabetes and Heart failure are secondary factors for an increased risk of adverse outcomes from pneumonia. COPD does not significantly increase in-hospital mortality from CAP, but treatment in the intensive cardiology sector does not affect the severity and outcome of CAP. The evaluation of the cumulative risk of concomitant diseases, performed by CCI (Charlson Comorbidity Index) for the development of complication and mortality from CAP was performed for the first time in Bulgaria (original contributions of scientific-theoretical and scientifically applied nature).

1.B. Importance of biomarkers in determining the severity and prognosis of community-acquired pneumonia (CAP)

The demand for biomarkers with diagnostic value for CAP is especially relevant in the world literature. The well-known CRP correlates with basic severity scales. Newer and widely studied as a marker to confirm bacterial infection and AB, respectively, is procalcitonin (PCT), it is significantly elevated in a proven bacterial causative agent, but we all know the fact that it is difficult and relatively rare to be proven. An innovative marker associated with the hopes of finding a better predictor of severity is the mid-regional proadrenomedulin (MR-pro ADM), which in Dr. Miteva's study increases with increasing severity, assessed on the main scales. For the first time in Bulgaria a comparative analysis is carried out between the individual biomarkers in terms of their predictive value. For the first time in Bulgaria the changes in the coagulation markers are analyzed - the frequency of increase of D-dimer in the course of pneumonia and its significant connection with the severity and prognosis of CAP is proved. This study became especially actual today during the global Covid-19 pandemic, when a number of authors reported an increase in the marker associated with a poor prognosis (original contributions of a scientific-theoretical and applied nature).

1.C. Complications of pneumonia and other respiratory infections

The wide range of pulmonary and extrapulmonary complications of respiratory infections is extensively presented. Particular attention in pulmonology is the connection of acute respiratory infections (ARI) with cardiovascular complications, especially with acute coronary syndrome and Ischemic stroke (scientific contributions).

1.D. Other aspects of pneumonia - assessment of severity scales, treatment, mortality analysis, nosocomial pneumonia.

A comparison was made between the three main CAP severity scales, validated and most widely used worldwide - PSI, CURB-65 and the IDSA / ATS Criteria as predictors of the need for intensive care, early and overall hospital mortality (such a comparative analysis between the main severity scales was

made for the first time in Bulgaria and it was found that CURB-65 has a good predictive value and is easier to implement due to the smaller number of criteria. Based on this scale, the assessment of the severity of pneumonia is enshrined in the National Consensus on the Diagnosis and Treatment of CAP. In the same consensus, betalactam/macrolith is recommended instead of monotherapy with betalactam and the combination betactam/fluoroquinolone. For the first time in Bulgaria a risk profile of patients with pneumonia is being developed, including accompanying whitening and biomarkers, based on which an algorithm for treatment and control of patients with CAP (including 4 levels) has been developed - outpatient, general ward, specialized clinic and intensive ward. The long-term work (29 years) on respiratory infections and in particular pneumonia is summarized in a monograph work, a suitable reading for many medical specialists - pulmonologists, infectious disease specialists, internists, GPs, specialists, students, etc ..

Direction 2 Bronchoobstructive diseases

2. A. Chronic Obstructive Pulmonary Disease (COPD)

In co-authorship with other colleagues who mainly study the problem, Dr. Miteva confirms the conclusions of their research. The significance of CRP was analyzed to identify significantly elevated CRP in patients with COPD and with probable bacterial exacerbation and pneumonia.

5. B. Bronchial asthma

A mandatory review of the current recommendations for the treatment of BA has been performed. The emphasis is on personal assistance in treatment in the presence of concomitant care for the single respiratory tract, gastroesophageal disease, depression.

6. Direction 3 Pulmonary thromboembolism

PTE developed by a co-author in the team is related to one of the risk factors - malignant diseases leading to the development of PTE. Emphasis is also placed on the treatment of the massive form of PTE, which is the main therapeutic problem due to its life-threatening nature.

Direction 4 Other

Performed scientific reviews: Idiopathic pulmonary fibrosis; long-term use of macrolides in patients with Chronic Renal Failure, based not only on the antibacterial but also on the anti-inflammatory and immunomodulatory action of the drug.

Getting acquainted with the scientific work of Dr. D. Miteva, MD it is noteworthy that the main focus is pneumonia, studied in depth. Pneumonia has been, is and will be the subject of scientific research and development, especially nowadays - the Covid-19 Pandemic, on the occasion of which a number of unknown features will be revealed (and a number of dissertations defended).

For me, the greatest merits of the scientific developments of Dr. D. Miteva are: -the study of inflammatory markers in pneumonia- both classical (CRP), as well as newer and less developed and known procalcitonin, proadrenomedulin (although I did not understand its accessibility to the general practice). Another important point is the assessment of the severity scales and the conclusion that the CRP corresponds to CURB-65 in terms of predictive value (national consensus). -The second aspect of creativity that impresses is comorbidity and its significance in the course of pneumonia. It would be good to classify patients with pneumonia without concomitant diseases and to take into consideration the differences in the clinical course.

CONCLUSION

I believe that the outlined scientific applied value of the work of Dr. D. Miteva, MD, as well as the modern approach to the challenges of time in pulmonary aspect (Covid-19 pneumonia, although not studied) characterizes Dr. D Miteva, MD, whom I know from her students, as a correct doctor and knowledgeable pulmonologist, looking for new signs, able to work in an interdisciplinary team (cardiologists, neurologists), striving to persist in the challenge of "pneumonia".

Her academic workload, her scientific evaluation indexes, as well as her ability to promote knowledge (monograph) fully meet the requirements of the law for the development of the academic staff of the Republic of Bulgaria and the Medical University of Varna).

I recommend to the respected members of the scientific jury to award Dr. Darina Miteva, MD. scientific degree (academic title) "Associate Professor"

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