# ACADEMIC OPINION

from **professor d-r Minko Minkov, MD**
Department of „Anatomy, histology and embryology, pathology", Medical Faculty in University „Prof. d-r Asen Zlatarov'' and Medical University – Varna

member of a scientific jury, based on an order of the Rector of the University - "Prof. d-r Asen Zlatarov "
N ° RD 93 / 07 .0 4.2021

**Regarding:** A competition for acquisition of the academic position "Associate Professor", announced in the State Gazette 12 from 12.02.2021 in the scientific specialty " Pathoanatomy " in the Department of " Anatomy, histology and embryology, pathology " in the Medical Faculty of the University „ Prof. d-r Asen Zlatarov " - Burgas.

The only candidate **d-r Maria Stoyanova Koleva-Ivanova, MD** has submitted paper and electronic materials for participation in the competition.

All required documents are presented, according to the Regulations of the structure and activity of the University " Prof. d-r Asen Zlatarov " – Burgas and the Regulations for acquisition of the academic position „Associate Professor''.

## I. Career development

D-r Maria Stoyanova Koleva-Ivanova was born on 30/05/1984 y.
She graduated English Language High School „Geo Milev'' in Burgas in 2003 y. She successfully graduated Medicine in 2009 y. in MU-Plovdiv.
D-r Koleva acquired the specialty in "General and Clinical Pathology and Cytopathology" at MU-Plovdiv, in 2017 y.
In 2020 y. she successfully defended the educational and scientific degree "Doctor" in Medicine.
In her professional career, d-r Koleva holds the position of assistant after successfully passing the exam in 2010 y., and in 2019 y. holds an administrative position in the Department of "General and Clinical Pathology" MU - Plovdiv, which currently performs.

Impressive is the perseverance and skillful combination of scientific, diagnostic and teaching activities, behind which lies a serious work, expressed in continuous teaching, participation in congresses, conferences and development of scientific publications.

## II. Description of scientometric indicators

D-r Koleva presents a total of 22 scientific publications and reports, 17 of which are published in scientific journals, referenced and indexed in world-famous databases of scientific information, 5 of them are in international journals with IF, and 2 are reports from international congresses included in a journal of abstracts. There are five publications in unreferenced journals with scientific review or published in edited collective volumes.

In addition, she has 11 participations in scientific forums (reports and posters) abroad and in Bulgaria.

The candidate is the author of 1 scientific project.

She has participated as a co-author in a monograph named: "Current pathomorphology of urinary bladder diseases", published by Lax Book, Plovdiv, 2020 y.

The total impact factor from the publications of d-r Koleva is 7.17, and the positive citations are 12.

The following moments make an impression in the scientific activity of the candidate:

1. The close connection between general and clinical pathology in the scientific research, which fully corresponds to the name of the specialty - "General and clinical pathology".
2. The expressed taste for urological pathology, which is clearly evident from the topic of the dissertation, as well as the monograph and scientific publications.
3. The impact factor of d-r Koleva, as well as the high level of international journals, referenced and indexed in a world-famous database.

## III. Assessment of the contributions of scientific publications

The main directions of d-r Koleva's scientific work are divided into :

1.Pathology of prostate gland.

-Contributions with original character. A quantitative study of the main indicators (frequency, age and main clinical symptoms) of prostate eosinophilic metaplasia (EM) of TURP-material, including the Bulgarian group of patients, as well as the level of serum PSA in the French group of patients with EM were done. A systematic study of the size of eosinophilic cytoplasmic granules has been performed and it has been shown that they can be of different sizes, thus leads to expanding the modern definition of prostate EM. A systematic topographic study of the localization of EM in the transitory zone of the prostate gland, as well as a systematic and schematic classification of prostate EM with respect to its localization. Monitoring and summarization of possible outcomes of the process of prostate EM was performed. Histochemical and immunohistochemical examination of EM was performed, the results of which proved the mixed exocrine and lysosomal character of these granules. It has been shown that EM is necessarily a pathological finding and is not observed in the normal human prostate, and that chronic histological prostatitis (CHP) underlies the development of EM and basal cell hyperplasia (BCH), which often develop together. EM is pathogenetically associated with CHP.

- Scientific-applied and methodical contributions. Two scales for semi-quantitative histological evaluation have been developed: the histological spreading of EM (focal and diffuse EM) and the histological distribution of EM (EM in single or small groups of cells and EM in large groups of cells). The localization of the prostate EM is systematically systematized: according to the localization in the secretory prostate epithelium; according to the localization in the secretory prostate unit (acinus or duct); according to the topographic tissue localization in the prostate, according to the microanatomical architectural localization in the prostate. The advantage of standard histological stains containing floxine instead of eosin (HES and HPS) for easier tissue identification of cytoplasmic granules in prostate EM has been demonstrated. A tissue artifact mimicking histologically the EM associated with the nature of the TURP material was observed. A differential diagnostic algorithm has been developed to distinguish true EM from tissue cytoplasmic pseudoeosinophilia. EM was observed in laser prostate resection material (HOLEP), where eosinophilic granular cytoplasmic changes in secretory cells with EM were preserved. Algorithmic morphological and IXX criteria for tissue diagnosis and differential diagnosis of prostate EM are differentiated. Apart from being a microscopic tissue phenomenon in benign prostatic epithelium, EM has

diagnostic and differential diagnostic value in relation to chronic prostate inflammation.

- The combination of non-specific granulomatous prostatitis (NSGP) with EM and prostate adenocarcinoma has been described for the first time. A differential diagnostic IHC algorithm has been developed to distinguish NSGP with EM and prostate adenocarcinoma with endocrine differentiation, morphologically resembling Paneth cells. A histological, histochemical, and IHC description of NSGP was made and the relationship between NSGP and chronic histological prostatitis was discussed.
- The transition from prostate to general pathology is monitored, with special emphasis on epithelial prostate EM, the combination of different types of prostate epithelial metaplasia and their relationship with chronic prostatitis and basal cell hyperplasia. A clinical and anatomical case of urethral prostate ectopic tissue with the presence of eosinophilic epithelial metaplasia (EM) has been described. The first case described in the world literature illustrates the development of a type of organ-specific metaplasia (EM) in ectopically located tissue from the same organ.

2. Pathology of urinary bladder.

- Thepublished collective monograph is a practical guide to uroptatology, which contains - the correct diagnosis, including modern criteria, histological grading and staging of urothelial tumors, which is a decisive factor for the further phase of postoperative treatment and is directly related to long-term prognosis. The original contribution of the work is expressed in the first histo-epidemiological data on the frequency and clinical and anatomical characteristics of eosinophilic cystitis, giant cell cystitis and nephrogenic adenoma.

- The connection between bladder xanthoma and low-grade malignant urothelial neoplasm has been described for the first time. The described rare case and the literature review are commented in terms of the morphogenesis of the lesion in view of its development after previous bladder surgery.

3. Pulmonary pathology. Describes the diagnostic value of the urgent intraoperative examination in lung diseases, in particular in malignant pleural mesothelioma (MPM).

4. Neuropathology - describes a clinical case of neuroma with rare intraoral localization; the relationship between astrocytoma and angiomatous

meningioma, as well as several cases in the field of forensic medicine and deontology.

5. Gastrointestinal pathology. A series of several publications describe the links between the esophageal xanthoma that developed in Barrett's esophagus and the use of nonsteroidal anti-inflammatory drugs, as well as that between the rare Russel body gastritis and malignant gastrointestinal stromal tumor. A clinical case of capillary hemangioma with atypical and rare localization in the stomach has also been described.

6. Contributions in the field of medical education and modern foundations of teaching.

## IV. Assessment of participation in the scientific-teaching activity

As an assistant, d-r Koleva is engaged in the regular pathology course for training students in the specialties "medicine", "dental medicine" and "pharmacy" in Bulgarian and English.

D-r Koleva's scientific research continues after the defense of her dissertation in collaboration with colleagues from the Department of Pathology. From the beginning of 2021 y. d-r Koleva, together with her supervisor Assoc. Prof. d-r Dorian Dikov actively participates in the organization of online presentations, which aims to support the theoretical and practical training of specialists in pathology.

As a lecturer at MU-Plovdiv and at the Department of General and Clinical Pathology, d-r Koleva is a respected and preferred lecturer by students.

**Conclusion:** The professional and personal development of **d-r Maria Stoyanova Koleva-Ivanova** fully comply with the requirements set out in the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations of the University - "Prof. d-r Asen Zlatarov "for acquisition the academic position of" Associate Professor ".

**Fully convinced, I give positive assessment to d-r Maria Stoyanova Koleva-Ivanova and I will vote to be awarded the academic position of "Associate Professor"** at the Department of „Anatomy, Histology and Embryology, Pathology'', Faculty of Medicine, University - "Prof. d-r Asen Zlatarov "

02.06. 2021 г. Prof. d-r Milko Milkov, MD.