



## ACADEMIC REVIEW

FOR ACQUISITION OF ACADEMIC POSITION „ASSOCIATE PROFESSOR“ IN PROFESSIONAL FIELD 7.1. MEDICINE / PATHOANATOMY AND CYTOPATHOLOGY/ OF UNIVERSITY „PROF. D-R ASEN ZLATAROV“, ANNOUNCED IN STATE GAZETTE, NO. 12 FROM 17.02.2021 Y OF PROF. CANA PETROVA BOSHNAKOVA-PRAZNIKOVA, PHD

D-r Maria Stoyanova Koleva-Ivanova, MD from the Department of „General and Clinical Pathology“, Medical University of Plovdiv, has submitted documents for participation in the competition.

The candidate has submitted the necessary documents required for participation in the competition and has been admitted by a Decision of a Commission appointed by an Order of the Rector of the University "Prof. d-r Asen Zlatarov "- Burgas and an established jury.

D-r Maria Stoyanova Koleva-Ivanova was born on May 30, 1984 y. in the city of Burgas. In 2003 y. she graduated from the English language high school "Geo Milev" in Burgas with excellent level of English and very good level in German. The same year she was admitted to the Medical University in Plovdiv. After completing her studies from 02.03.2010 y. until 2019 y. she is an assistant in the Department of "General and Clinical Pathology" of the Medical University in Plovdiv, and from 01.03.2019 y. until now she is an administrative assistant of the Department. She has 11 years and 15 days of experience in the specialty for the period from 02.03.2010 y. to 16.03.2021y.

In 2017 y. she acquired a specialty in „General and Clinical Pathology and Cytopathology“. In 2020 y., after successfully defending a dissertation on the topic - "Eosinophilic metaplasia in the prostate epithelium, general characteristics, morphology and morphogenesis", she was awarded the scientific degree "Doctor".

D-r Maria Koleva is a co-author of the monograph "Current Pathomorphology of Urinary Bladder Diseases" published in 2020 y. So far, there are 17 publications in scientific journals, referenced and indexed in a world-famous database of scientific information. Her publications in unreferenced journals with scientific review or published in edited collective volumes are 5. with Impact Factor by Thomason Reuters -7.17, Global Impact Factor -0.388.

D-r Maria Koleva is a co-author of the monograph "Current Pathomorphology of Urinary Bladder Diseases" published in 2020 y.

She has 11 citations in scientific journals, referenced and indexed in a world-famous database of scientific information, and one citation in monographs and collective volumes with scientific review.

D-r Koleva has 11 participations in international scientific congresses and conferences and participation in one University research project. She participated in the poster sessions of the 27th Congress of Pathology with 4 posters in the field of urinary bladder pathology, embryonic testicular cancer and prostate cancer.

D-r Koleva's research is extensive in the field of prostate and bladder pathology. In her dissertation she comprehensively studies the eosinophilic metaplasia / EM / of the prostate epithelium in various pathological conditions using a rich set of classical and modern methods. Eosinophilic epithelial metaplasia has been shown to be necessarily a pathological finding and is not observed in the normal human prostate.

Histological prostatitis (HP) underlies the development of EM and basal cell hyperplasia. EM has diagnostic and differential diagnostic value in relation to chronic inflammation of the prostate. A differential diagnostic immunohistochemical algorithm has been developed to distinguish non-specific granulomatous prostatitis (NSGP) with EM and prostate adenocarcinoma with endocrine differentiation resembling cells of Paneth.

D-r Koleva's contribution is her participation in the monograph "Current Pathomorphology of Urinary Bladder Diseases", concerning tumor pathology of the urinary bladder, epithelial abnormalities, metaplasias and cystitis. The work can serve as a practical guide to uropathology for proper diagnosis, histological grading and staging of urothelial tumors. These data are essential for the further phase of postoperative treatment and are directly related to the long-term prognosis of patients. The histoepidemiological data and the clinical and anatomical characteristics of the eosinophilic and giant cell cystitis and the nephrogenic adenoma, established for the first time in our country, should be considered as an original contribution.

D-r Koleva participated in the study of 61 cases of transurethral resection of the prostate and examined prostate epithelial metaplasia / squamous, urothelial, mucinous and eosinophilic /. All cases of prostatic epithelial metaplasia were found to be associated with benign prostatic hyperplasia and varying degrees of prostatitis. P63 is positive in all studied cases of prostate

epithelial metaplasia and basal cell hyperplasia (publication in *Acta morphologica et anthropologica*, 2019 y.).

Eosinophilic granules in prostate epithelium have an expression of prostate-specific PSA antigen.

In co-authorship, D-r Koleva studied eosinophilic metaplasia in 20 transurethral resection materials of the prostate using IHC markers for PSA and MUCS: MUC1, MUC2, MUC5AC and MUC6. For the first time, it has been shown that prostate EM is not a form of mucinous metaplasia. It was found that MUC1 can be used as a non-specific marker for benign EM-phenotype.

D-r Koleva makes a complete immunohistochemical profile of the granules in eosinophilic metaplasia, which is carried out for the first time in detail. For the first time, eosinophilic granules in eosinophilic metaplasia have been shown to be MUC1 positive, different in size, and are not a form of mucinous metaplasia.

D-r Koleva in co-authorship published the modern clinicopathological criteria for the diagnosis of urothelial carcinoma, presenting in detail the modern protocols for the preparation of biopsy materials, a prerequisite for correct diagnosis and assessment of urothelial carcinoma. She uses a wide range of immunohistochemical markers in the diagnosis of urothelial carcinoma such as CK7, CK20, PSA, AMACR, CDX2, P63 and Ki-67. The research is important in cases with difficult diagnosis - in low differentiation, carcinoma in situ, for differential diagnosis, for detecting invasion and determining the degree of differentiation of the tumor.

D-r Koleva has contributions as a histopathologist with her participation in the Intra-University project started in 2014 y. with number NO-14/2014. on the topic "Development of a modern immunohistochemical algorithm for the diagnosis of socially significant pelvic tumors in men". The biopsy urological material of the Department of Clinical Pathology for a period of 8 years / 2006-2013 / was studied using modern immunohistochemical methods such as for differentiation of prostate from colorectal cancer using the antibodies NKX3.1 and Cadherin 17.

Dr-r Koleva participates with a team from the Department of „General and Clinical Pathology” in Plovdiv in assessment of the next update in 2017 y. of the Classification of Urothelial Tumors. Emphasis is placed on the importance of modern criteria in the diagnosis of urothelial cancer - staging and grading of these most common tumors of the bladder mucosa.

In co-authorship, d-r Koleva proves that immunohistochemical markers can be used to diagnose, grade and stage urothelial bladder cancer - such as Ki-67 in benign lesions - proliferative activity

is only in the basal layers of the epithelium, and in carcinoma in situ is in the entire thickness of the epithelium with more than 20% proliferative index, CK20 in non-tumor lesions of the mucosa is only in the superficial layer, and in carcinoma in situ - in the entire thickness of the epithelium. / *Acta morphol. Et anthropol.*, 26 / 1-2 / 2019 /.

Very interesting is the case report of non-specific granulomatous prostatitis described by d-r Koleva in association with eosinophilic epithelial metaplasia and prostate adenocarcinoma. D-r Koleva also reported a bladder xanthoma that developed after resection of a urothelial neoplasm.

D-r Koleva is a co-author of published case report in the field of gastrointestinal pathology, such as the development of esophageal xanthoma in Barrett's esophagus after nonsteroidal anti-inflammatory treatment.

D-r Koleva participated in the description of a rare case of Russel body gastritis with malignant gastrointestinal tumor / GIST / and a case of capillary hemangioma of the stomach.

In co-authorship, d-r Koleva reported a rare case of neuroma with intraoral localization. In another study, she made a differential diagnosis between astrocytoma and angiomatous meningioma using an immunohistochemical markers to visualize the vascular and fibrillar components of the tumor parenchyma. D-r Koleva is the co-author of a rare case report of pathological changes in the bones that can mimic trauma - a complication of a cranial fracture has been published, which can be mistaken for a gunshot wound. / publication in the *Egyptian Journal of Forensic Science* /.

Also of interest is case reports in the field of forensic medicine, described in co-authorship with a forensic physician, concerning combined suicide with gunshot wounds and self-hanging.

D-r Koleva participated in the study of the effect of urgent intraoperative examination of the pleura, which is of diagnostic value more often in non-tumor lesions and metastases than in pleural mesothelioma.

D-r Koleva performs a wide range of teaching activities - conducting regular practical lessons and seminars annually. In the academic year 2018-2019 y. she has 450 lessons and seminars at the Faculty of Medicine, 30 at the Faculty of Dental Medicine and 30 at the Faculty of Pharmacy. In 2019-2020 y.- 360 in the Faculty of Medicine and 32 in the Faculty of Dental Medicine, in 2020-2021 y. - 270 practical lessons and seminars in the Faculty of Medicine, 32 in the Faculty of Dentistry and 30 in the Faculty of Pharmacy.

D-r Koleva is a co-author of 5 textbooks and 5 academic manuals in medicine, dental medicine, pharmacy and health specialties with a team from the Medical Institute in Plovdiv, published in Bulgarian and English. D-r Koleva actively promotes the use of computer technology in the education of students, creating a new type of guide for practical lessons using didactic resources. The management of the University gives a high assessment of the pedagogical activity of d-r Koleva. She enjoys the authority and sympathy of the students.

D-r Koleva participates in the Journal of the Eurasian Union of Scientists with articles about the application of inductive pedagogical techniques in the deductive medical education system.

#### CONCLUSION

ON THE BASIS OF EVERYTHING STATED SO FAR, I CONSIDER THAT D-R MARIA STOYANOVA KOLEVA-IVANOVA, MD FULLY MEETS THE CRITERIA OF THE LOW FOR DEVELOPMENT OF ACADEMIC STAFF, AS WELL AS QUALITATIVE AND QUANTITATIVE CRITERIA FOR ACQUISITION OF ACADEMIC POSITION „ASSOCIATE PROFESSOR" IN MEDICAL UNIVERSITY "PROFESSOR DOCTOR ASEN ZLATAROV". AS AN EXCELLENT SPECIALIST AND TEACHER, SHE HAS PROVED HER HIGH PROFESSIONAL COMPETENCE.

I GIVE A COMPLETELY POSITIVE ASSESSMENT TO THE CANDIDATE AND I CONVINCELY RECOMMEND THE HONORABLE SCIENTIFIC JURY TO AWARD D-R KOLEVA THE SCIENTIFIC POSITION OF „ASSOCIATE PROFESSOR" OF GENERAL AND CLINICAL PATHOLOGY.

30.05.21 y.

Prof. Cana Boshnakova-Praznikova, PhD