



REVIEW

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Concerning: procedure for obtaining an academic position “Associate professor” in the field of Higher education 7. Health and sports; professional sphere 7.1. Medicine, scientific specialty „Internal medicine“ for the needs of University “Prof. Dr. Assen Zlatarov” – Burgas. The competition was published in the Government Newspaper № 90/ 20 Oct 2020.

As per decision of the Faculty Board of “Social health and healthcare” at University “Prof. Dr. Assen Zlatarov” – Burgas, summarized in protocol № 1/04 Jan 2021 and as per Act № ПД 243 / 21 Dec 2020 of the Rector of University “Prof. Dr. Assen Zlatarov” – Burgas, I was elected as an external member of the Scientific board (SB) for the procedure of acquisition of academic degree “Associate professor” at the University. I was assigned to write a Review for the competition. The only one candidate, admitted to the competition, is **Dr. Assia Andrianova Konsulova-Kirova, DM, MD.**

I was given a set of papers which is conformant with the required by the Law and the Act for graduation of the academic stuff in Republic of Bulgaria as well as by the University Regulation for acquisition of academic degree “Associate professor”. The documents are in compliance with the requirements of the academic degree. There are no procedural failures.

I declare no conflicts of interests.

I. SHORT BIOGRAPHIC AND PROFESSIONAL DATA ON THE PROFESSIONAL PATHWAY OF THE APPLICANT

Dr. Assia Konsoulova was born in 1978 in Sofia. She graduated with excellence higher education in Medicine in 2003 at the Medical University “Prof. Dr. Paraskev Stoyanov” – Varna (diploma № 3343/2003). In 2004 she started working as physician at the Medical oncology clinic at the Multidisciplinary Hospital for active treatment, “Sveta Marina”- Varna where she was working until January 2019. Further on since January 2019 until present, the applicant continued her professional career at the Medical oncology department at Comprehensive cancer center (CCC) – Burgas.

Dr. Konsoulova has two medical specialties: Internal Medicine, recognized in 2011 (diploma № 3065/2011) and Medical Oncology, recognized in 2015 (diploma № 3640/2016). She successfully defended a PhD thesis in 2016 on „*Expression of some plasma and tissue biomarkers as potential predictors for antiangiogenic treatment with bevacizumab in metastatic colon cancer*“. She thus acquired a scientific and educational degree “Doctor of medicine” in the scientific specialty “Oncology”.

II. SCIENTIFIC ACTIVITY AND SCIENTIFIC CONTRIBUTIONS

Dr. Konsoulova reported the following scientific publications in order to obtain the academic position of “Associate professor”:

- Dissertation for education and scientific degree “Doctor of medicine” - 1;
- Scientific publications (instead of habilitation monograph) in peer-review journals with reference and indexation in world-known databases for scientific information – 14 articles;
 - Publications in scientific journals with peer review and indexation in world-known databases for scientific information (Scopus; Web of Science) – 1;
 - Publications in non-referenced journals with scientific peer-review or published in collaborative editions or other publications, not listed in the academic reference – 24 publications;
 - Publications with citations in peer review scientific journals with reference and indexation in world known databases for scientific information or in monographies and collaborative editions – 4 articles with listed 22 citations of 61 in total;
 - Participation in national scientific or educational projects – 1;
 - Participation in international scientific or educational projects – 1;
 - Heading of national scientific or educational projects – 1;
 - Lectures at national scientific events – 13;
 - Lectures at international scientific events – 24;
 - Posters or abstracts at national conferences – 2;
 - Posters or abstracts at international scientific conferences – 15.

Of all listed publications, **39** may be considered as “scientific production” without counting the dissertation, the autoreferree and the publications, the publications, requested for the acquisition of the educational and scientific degree “Doctor of medicine” and the reports or abstracts at scientific conferences.

Of these **39** publications, listed as evidence for the scientific activity as minimal requirements to obtain the academic position “Associate professor”, as per the Act for graduation of the academic staff in Republic of Bulgaria from 2018:

- Full text publications in scientific journals in English language – 18 articles;
- Full text publications in scientific journals in Bulgarian language – 21 articles.

The listed by the applicant publications for participation in the procedure fulfill the requirements as number and categories as per the recommended quality and quantity criteria for acquisition of an academic degree “Associate professor” as per the Regulation for acquisition of academic degree “Associate professor” „Prof. Dr. Assen Zlatarov“ – Burgas.

Of the listed 39 publications, Dr. Konsoulova is the sole, first author or an author with equal contribution in **31 (79.5%)**, she is the second author in **1** of the publications (**2.6%**), and the third or consecutive author in **7** publications, which stands for **17.9%** of the total count. These numbers speak for the leadership of the applicant in the listed scientific publications.

- Citations count

It becomes obvious by the presented by the applicant reference from Scopus, that she has been cited in peer-review journals or reviews with reference and indexation in the world known scientific database Scopus, **a total of 61 times**. The applicant participates in this competition with 22 of them.

III. CHARACTERISTICS AND SCIENTIFIC INFLUENCE OF THE PUBLICATIONS

The scientific publications of Dr. Konsoulova fall within the following areas:

- 1. Rare tumors in the clinical oncology – 14 publications (articles B 1-13 and Г 21);**
- 2. Breast cancer management – 10 publications (articles 2, 3, 5, 6, 12, 21 – 24, B 7)**
- 3. Translational medicine and biomarkers – 13 publications (articles 1, 6, 8, 13-17, 19, 20 B1, 3, 12)**
- 4. Immunotherapy – 3 броя (articles 7, 10, 11).**

The listed 14 articles, replacing a monography, cover different aspects of the clinical management of rare tumors. These 14 articles scientifically contribute to the clinical management of the rare tumors in the oncological practice. The conclusions, referring to the staging, surgery, the treatment management and the follow-up of these rare cancers are a result of analyses and comprehensive understanding of the problem, guiding the routine clinical management. As these are rare cancers, which in definition represent < 1% of all cases, their management is often difficult and mandates further diagnostic tests and therapeutic amelioration. The publication of such data helps the identification of such rare tumors and provides better opportunity for their

adequate management without further delay. The literature review clearly speaks that the treatment of rare cancers is often delayed due to the need of further diagnostic precision or obstruction in the clinical management. In view of this, the systematization and description of all available data for the rare cancers is essential and it was done by the applicant with comprehension. Another focus of the scientific articles is referring to the most recent immune markers in the aim to differentiate common etiological and pathogenetic mechanisms and clinical presentations. The role of the histological morphology as a “gold standard” is emphasized as the basis for the diagnosis and the search of potential predictive or prognostic biomarkers, valid for the treatment of these rare oncological diseases.

For the first time in Bulgaria are presented practical algorithms for diagnosis and identification of potential risk groups for rare gynecological tumors. This is also valid for the male breast cancer. Several series of rare cancers as the lymphoepithelioma-like uterine cervix carcinoma (articles B5 and B12), the mucoepidermoid cancer (articles B1), the smooth uterine tumors with unknown malignant potential - STUMP – (article B6), the warty carcinoma of the uterine cervix (article B2), the synchronous primary tumors (articles B7 and B9) or rare localizations of more frequent malignant diseases (article B8) or sex-specific incidence rates (article 21) present the potential diagnostic and therapeutic management of these tumors.

The treatment of precancers is given a special attention (articles B3, B4, B11) with an emphasis on the early prophylaxis prior to the occurrence of a malignant disease with clear clinical significance. The conservative management of highly symptomatic conditions, typically managed by surgery, is discussed. A successful conservative treatment may lead to regression of the precancer conditions and this may guide the further scientific research with longer follow-up.

The current understanding of the heterogeneous rare tumors is discussed in the light of the personal experience. This gave the opportunity to draw clinical recommendations, guiding the diagnosis, treatment and follow-up of patients with rare difficult to treat cancers. Additional scientific contribution of the above-mentioned publications is the comparison of tumors, similar in histology but different in localization of the primary. The histologically common but different in localization rare primary cancers provides valuable clinical guidance in the potential response to different methods of treatment. The discussed similarities also provide an opportunity to assess common therapeutic strategies, e.g. chemo- or radiotherapy.

The publications discuss information, published for the first time in Bulgaria regarding rare cancer localizations in Bulgaria. Additionally, some of them (articles B1, B2) are currently the largest data based, published in the world scientific literature.

The last two publications (B13 and B14) are the result of long years of work in collaborative international groups, where Dr. Konsoulova is a national representative for Bulgaria. At several steps, the gaps in the care for different patient populations are identified – the management of teenagers and young adults (article B13), as well as patients with lung cancer (article B14). The need of specialized care teams for the management of teenagers and young adults with cancer is discussed as this is a group of patients with cancers, lacking specialized care in Bulgaria. As a result, structuring of specialized cancer centers was initiated in Bulgaria, dedicated to the specific care for this subgroup of rarely affected by cancer patients. A scientific and clinical contribution is the suggested treatment algorithm for improvement of the oncological care for these patients.

The contribution for the structuring of the management and treatment strategy for patients with lung cancer is also important (article B14). The numerous author team in both publications stands with equal contribution (B13 and B14), which is due to the national presence of many countries, resulting in an intellectual effort of 3 years of research. The rarity of the discussed topic is the reason to include this problem in the field of the articles instead of a monography. The large variability in the care among the European countries is the chief conclusion of both publications. The advantages and disadvantages of every health system are identified and discussed, revealing practices that need potential improvement. An advantage of Bulgarian health system, for example, is the fast and easy access to specialized medical care and tests (CT, PET/CT, etc.), as well to a specialist in the tertiary care system. As a disadvantage of the Bulgarian system was identified the lack of specialized cancer centers, leading to a decrease in the quality of the treatment care. The elaboration of a concept model for the function of a specialized center, valid for all countries is a clinical contribution of national and international significance.

5. Management of breast cancer – 10 publications (articles 2, 3, 5, 6, 12, 21 – 24, B 7)

Besides the international experience in oncogynecology, the scientific and clinical interest in breast cancer in both females and males is a feature, typical for Dr. Konsoulova. The articles in this area discuss key moments, relevant for the survival of this subgroup of patients in Bulgaria and provide a multitude of scientific research and clinical contributions. The analyses of national and international databases discuss differences in many parameters (e.g. survival, rates of diagnostic biopsy prior to treatment, volume of surgery, rates of neoadjuvant treatment, chemo- or endocrine therapy, etc.). The evidence-based data for the value of the different systemic therapies is also discussed, based on national data. Different factors with principal scientific and practical influence on survival of breast cancer patients in Bulgaria are identified.

6. Translational medicine and biomarkers – 13 publications (articles 1, 6, 8, 13-17, 19, 20 B1, 3, 12)

After the successful defense of the habilitation thesis for educational and scientific degree “Doctor of Medicine”, Dr. Konsoulova continues to work in the field of translational medicine. The research in different cancer localizations as colon and breast cancer identify potential biomarkers with predictive and prognostic significance.

Besides the theoretical importance of the identification of key molecules, participating in different cell signaling pathways, relevant for the development and progression of tumors, the research lead to the discovery of biomarkers that could be subject to further prospective research and validation.

7. Immunotherapy – 3 publications (articles 7, 10, 11)

The listed publications focus on the currently valid and in fast development immune therapy. It is important to mention that the listed articles are original and one of them (article 7) is a part of an international peer-review edition, published in English language where the applicant is the sole author. The focused research on the role and the types of immune response as well as its assessment are discussed with the example of the malignant melanoma. The immune strategies and the prospective study and summary of clinical data lead to a change in the oncological management in this oncological localization. The novel for the time just recently registered weeks ago checkpoint inhibitors are discussed with comprehension and details, precisising their potential role in the further clinical use. The definition and the structuring of the first Bulgarian evidence-based algorithms for the management of malignant melanoma, are a major achievement of the applicant.

The dynamically evolving immune therapy is a major area of the anticancer treatment in the medical oncology, which is continuously growing and this confirms the validity and significance of the scientific contribution of the publications in this area.

Dr. Konsoulova is an author and co-author in 15 scientific reports and abstracts, presented at prestigious international forums and 11 of them are presented during the last 2 years with a total impact factor IF 78.034 (SJR 19.135). The scientific indexation measures a total IF of the articles for this procedure of 13.803 (SJR 8.132).

IV. EDUCATIONAL AND TEACHING ACTIVITIES

Dr. Konsoulova started her teaching career in 2007 as a part-time assistant at the Department of Introduction to the Internal medicine at the Medical university of Varna. She continues further on for 4 more years from 2010 to 2014 as an assistant of the English-speaking foreign students. She further on holds the position of a full-time lecturer for 4 years - from 2014 until 2018 in

Internal medicine for students third and fifth year of medical education, as well as interns and trainees fifth and sixth year of education.

She participated in different national (13) and international (24) scientific seminars and events. She also reported multiple abstracts and scientific reports during the last 2 years (2019 – 2020) at international scientific events. This forms Dr. Konsoulova as a lecturer with prominent scientific and educational presence. She participated in the elaboration of scientific programs and tests, examination commissions.

Dr. Konsoulova has been and is an active member, secretary or chair of different hospital and specialized oncological boards at all medical institutions she has worked until now. She was also an expert in the Ministry of health in Bulgaria.

V. DIAGNOSTIC AND CLINICAL ACTIVITIES

As obvious in Certificate № Y1693/03.12.2020, the applicant has working experience of 11 years, 3 months and 22 days at the Multidisciplinary Hospital or Active treatment “Sveta Marina”- Varna, as calculated from 09.10.2007. Dr. Konsoulova has worked and started postgraduate education in the same medical institution immediately after graduation of the medical school. This is not considered as working but only serves as a professional experience. The same is valid for the years of international specialization in the cancer Jules Bordet Institute, Brussels, Belgium for the period 2006/2007. Certificate 1 from 15.07.2009 registers working experience of 9 months and 1 day as a physician in an Endocrinology outpatient clinic. Further working experience in the CCC – Burgas of 1 year and 10 months and 10 days, as until 11.12.2020. As Internal medicine specialist, Dr. Konsoulova has practice over 9 years, whereas as a Medical oncologist specialist – over 5 years.

VI. PARTICIPATION AND MEMEBRSHIP IN SCIENTIFIC SOCIETIES

The applicant is a member of national scientific societies as the Bulgarian association for dermato-oncology (BADO) and the Bulgarian oncological scientific society. She holds a leaderships positions in several professional organizations as the Young oncologists club, Bulgaria (member of the ethical commission) and she is the founder and the chair of the association Women for oncology - Bulgaria“.

Dr, Konsoulova is a member of international societies and organizations as European respiratory society (ERS), ECCO, the American society of Clinical oncology (ASCO) and the European society for medical oncology (ESMO). She holds leader positions in international organizations as a member of the scientific board of the European school of Oncology (ESO), the College of the European school of Oncology (ESCO).

CONCLUSION:

Having discussed all of the above, I presume that the treatment, diagnostic, scientific and the lecturer activities of the applicant are above the minimal requirements for the acquisition of the academic position of "Associate professor". I am confident that Dr. Assia Andrianova Konsoulova-Kirova, DM is a prominent specialist with deep theoretical knowledge, large practical experience and scientific experience and interests not only in the medical oncology field, but also in Internal Medicine.

I suggest to the Respectful scientific commission to vote positively and to delegate the **academic position "Associate professor"** in the field of Higher education **7. Health and sports**; professional sphere **7.1. Medicine**, scientific specialty „Internal medicine“ to **Dr. Assia Konsoulova-Kirova, DM, MD.**

01 Feb 2021

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