

To the Chair of the Scientific Jury
Faculty of Dental Medicine
Medical University “Prof. Dr. Paraskev Stoyanov” - Varna

Review

For the competition for the occupation of the academic position “**Professor of Nuclear Medicine**” in scientific specialty “Medical radiology and X-ray treatment (including use of radioactive isotopes), professional field 7.1. “Medicine” in the field of higher education 7. “Healthcare and sports”,

announced in the State Gazette, Issue 41/03.06.2022

for the needs of the Department of Paradontology and Dental Implantology at the Faculty of Dental Medicine, Medical University “Prof. Dr. Paraskev Stoyanov” - Varna

from Prof. Dr. Aneliya Klisarova, MD, PhD, DSc

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By order № R-109-313 from 29.07.2022 of the Rector of MU – Varna and by a decision of the first meeting of the Scientific Jury, I have been selected to participate as chair and reviewer in this competition.

The only applicant for this competition is **Assoc. Prof. Borislav Georgiev Chaushev, MD, PhD**, Head of the Department of Paradontology and Dental Implantology at the Faculty of Dental Medicine, Medical University “Prof. Dr. Paraskev Stoyanov” - Varna.

Brief biographical data

Assoc. Prof. Dr. Borislav Chaushev was born on 13.06.1974 in Varna. He completed his secondary education at the High School of Humanities “Konstantin Preslavski” in Varna. In 2001 he graduated Medical University “Prof. Dr. Paraskev Stoyanov” – Varna. In 2007 he acquired the specialty of nuclear medicine and in 2010 he acquired the educational and scientific degree “Philosophy Doctor” in the scientific specialty “Medical radiology and X-ray treatment

(including use of radioactive isotopes). After his graduation he started his working experience as a resident doctor at the Clinic of Nuclear Medicine and Metabolic Therapy at “St. Marina” University Hospital, where he has been employed to the present day and since 2020 he has been Head of the Clinic. During his academic career he has passed through the position of senior assistant professor and since 2015 he has been “Associate Professor”.

Assoc. Prof. Chaushev has taken part in various international trainings and has passed his experience to students of medicine, dental medicine, X-ray laboratory assistants and residents. Four colleagues have successfully defended their specialty under his guidance and four have acquired the educational and scientific degree “Philosophy Doctor”. Assoc. Prof. Chaushev has participated in a number of scientific events in Bulgaria and abroad. He is proficient in English.

Scientometric indicators

Assoc. Prof. Chaushev participates in this competition for the occupation of the academic position “Professor” with **112** scientific works, of which **74** related to the conferring of the academic position “Associate Professor” and **35** published after the acquisition of the academic position “Associate Professor”.

The total publication activity of the applicant for the academic position “Professor” includes:

Full text articles - 16;

Participation in a collective monograph - 2;

Published abstracts of scientific papers from scientific fora in Bulgaria and abroad – 17;

Participation in scientific fora in Bulgaria and abroad with a programme - 23;

In the presented materials Assoc. Prof. Chaushev is first author of 3 articles, second author of 6 articles and third and subsequent author of 27 articles. 10 of the articles are published in peer-reviewed and indexed journals in world data bases with scientific information.

His total impact factor is IF 146, 547, which is a proof of the significance of his scientific publications.

Assoc. Prof. Chaushev has presented over 50 citations in Bulgarian and international journals which once again proves his scientific activity and scientific interests.

Contributions assessment

The presented scientific work and the results from scientific research conducted by Assoc. Prof. Dr. Borislav Georgiev Chaushev, PhD, are divided thematically in the following scientific fields:

I. Nuclear gastroenterology

II. Nuclear oncology

III. Other

I. NUCLEAR GASTROENTEROLOGY

1. **The main theoretical contribution** is that for the first time in Bulgaria a thorough analysis is made of the motor-evacuatory function of the stomach in dysautonomic manifestations of Parkinson's disease, multiple sclerosis as well as functional disorders in diabetes mellitus by the application of a non-invasive highly sensitive scintigraphic method under conditions of normal feeding. The motor-evacuatory function of the stomach has been investigated in healthy volunteers and quantitative and qualitative criteria have been established for normal gastric motility.

2. I refer to the **methodological contributions** the suggested modified physiologically adequate breakfast allowing for the assessment of the gastric motility under natural conditions and the approved protocol for the achievement of high informativeness of the applied method, e.g. serial gastroscintigraphy.

3. I refer to the **applied clinical and diagnostic contributions** the following:

a. The proposed diagnostic algorithm for the inclusion of serial gastroscintigraphy in socially significant diseases such as diabetes mellitus, Parkinson's disease and multiple sclerosis.

b. Inclusion of serial gastroscintigraphy at every stage of the established diagnosis of diabetes Type 1 and Type 2, for the establishment of discrete disorders of the gastric motor activity, undetected by other methods of investigations in this severe metabolic disease.

c. For the first time the need is pointed out for the early inclusion of serial gastroscintigraphy in dysautonomic manifestations of Parkinson's disease and multiple sclerosis for the timely therapeutic impact of scintigraphically established gastric atony and better absorption of the medications from the therapeutic scheme in these diseases.

II. NUCLEAR ONCOLOGY

1. I refer to the **scientific contributions** the following:

a. The role of FDG PET/CT has been investigated and proved in the detection of early asymptomatic recurrences in patients with cervical cancer in high values of the tumor marker SCC and negative conventional imaging investigations during follow-up.

The high specificity and sensitivity of the method enable the detection of distant metastases, staging and monitoring of the female patients with cervical cancer.

b. The prognosis and the prognostic effectiveness have been studied and evaluated of the maximum standardized value for take-up (SUVmax) in 18F-fluorodesoxiglucose positron emission tomography before the treatment of patients with cancer of the colon and inoperable liver metastases and the relation of this value to the expression of Beclin-1.

The high values of the maximum standardized value of 18F-fluorodesoxiglucose show no statistically significant correlation with survival free from progression, but proves significantly worse overall survival. There is a reverse negative correlation between the values of Beclin-1 and maximum standardized value of 18F-fluorodesoxiglucose take-up.

c. The expression of RIPK3 has been studied as a potentially predictive and prognostic marker in metastatic cancer of the colon.

It has been established that the high level of RIPK3 expression is associated with longer overall survival in patients with metastatic cancer of the colon.

d. The diagnostic value of 68Ga-PSMA PET/CT has been examined and confirmed in patients with biomedical recurrence following radical treatment of prostate cancer. 68Ga-PSMA PET/CT is a method superior to the conventional CT in the diagnosis of recurrent lesions and local recurrence of prostate cancer even at low levels of PSA.

e. The diagnostic value has been assessed of 18F-FDG PET/CT as an imaging method for the detection of local recurrences of synchronous tumor of the larynx in re-staging of primary colorectal cancer.

e. It has been established that the performance of a biopsy with histological verification is a method of choice in the distinction of an inflammation caused by talc pleurodesis or malignant infiltration, in increased accumulation of FDG PET/CT in regions of pleural thickening in patients with pleural effusions and pneumothorax.

f. The prognostic and diagnostic value have been studied and confirmed in increased maximum standardized value (SUV max) of FDG accumulation in the regional lymph nodes in patients with NSCLC before treatment administration, which is associated with poor overall survival rate.

g. It has been assessed and studied that the degree of FDG accumulation in PET positive lesions do not necessarily present a malignant disease requiring the confirmation of the diagnosis by means of a thin-needle biopsy.

h. The high diagnostic value of 18F-FDG PET/CT has been evaluated as an imaging method for the diagnosis of synchronous tumors and distant metastatic lesions.

2. I refer to the **applied scientific and methodological** contributions the following:

a. The high specificity and sensitivity of 18F-FDG PET/CT have been evaluated in the diagnostics of bone lesions in multiple myeloma in comparison to the conventional X-ray.

b. The role of 18F-FDG PET/CT has been studied and confirmed as an imaging method in the establishment of a progression of calcified metastatic serous papillary cystadenocarcinoma of the ovaries in negative conventional imaging investigations.

c. The high specificity and sensitivity and the negative prognostic value of FDG PET/CT have been assessed as a non-invasive method for identification of the local recurrence in patients with flat cell carcinoma of head and neck even if there is a diagnostic suspicion after physical examination/endoscopy.

d. The advantage of 18F-FDG PET/CT has been proved as a more effective method as compared to CT-CE for the assessment of extra nodal affection of the diffuse B-large cell lymphoma (DLBCL).

e. The false positive results have been evaluated providing evidence of progression of conducted 18F-FDG PET/CT in patients with metastatic melanoma and chodrosarcoma.

f. The role of 18F-FDG PET/CT has been assessed as an imaging method in search of a primary tumor focus and determination of the biopsy site.

g. The role of 68Ga-PSMA has been studied and proved as an imaging method in the diagnostics of distant metastatic lesions in the primary staging of patients with high risk of cancer of the prostate gland.

h. The role of 18F-FDG PET/CT has been investigated and confirmed in the follow-up of the full clinical response to the performed chemotherapy and radiotherapy in patients with malignant epithelial tumors of the head and neck.

i. The false positive result has been evaluated and investigated providing evidence for a progression from performed 18F-FDG PET/CT in a patient with cancer of the biliary ducts.

j. The role of MRI has been studied in the primary staging and planning of radiotherapy in patients with locally advanced nasopharyngeal carcinoma. The MRI enables the precise visualization of the tumor invasion and the accurate definition of the volume of treatment.

3. I refer to the **publications applicable in the clinical practice** the following:

a. The role of 18F-FDG PET/CT has been assessed as a restaging method indicating a progression in a patient with malignant tumor of the lining of the peripheral nerves developed on the basis of neuromatosis.

b. The role of 18F-FDG PET/CT has been examined as a non-invasive imaging method offering a great opportunity for successful identification of the localization of primary tumors undetected to the moment, in the presence of evidence only for metastatic neck lymph nodes from the flat cell carcinoma.

c. The literary data have been confirmed establishing 18F-FDG PET/CT as a method playing an important role in nodal and distant staging of epithelial carcinomas of the head and neck and complementary to the results of the conventional imaging investigations (DOP-1)

d. The role of PET/CT has been assessed and proved in the diagnostics and staging of an early and advanced cancer of the mammary gland.

III. Other

1. The functional abnormalities have been investigated and evaluated in patients with essential tremor by means of 18F-FDG PET/CT and new evidence is presented for possible changes in the Broca area, the ocular zones and the frontal singular cortex.

2. The role and place of MRI have been studied and confirmed in the diagnostics of pyogenic hepatic abscesses. The absence of ionizing radiation, multiplanar visualization, the high tissue contrast difference give an advantage to MRI in comparison to the remaining imaging

methods for diagnosing the primary cause of the pyogenic hepatic abscess and the accompanying pathology, which define the therapeutic behavior with these patients.

3. It has been investigated and established that the levels of free thyroxin in the smear after thin-needle aspiration biopsy of the toxic nodes of the thyroid gland are significantly higher than the surrounding parenchyme and correlate with the hormonal changes.

4. The role of the dynamic kidney scintigraphy with ^{99m}Tc -DTPA has been assessed in the diagnosis of congenital hydronephrosis.

The dynamic kidney scintigraphy allows for the establishment of the degree of the urodynamic dysfunction. It can be used not only for diagnosing hydronephrosis but can be one of the leading methods for a follow-up functional assessment after corrective surgery.

5. The key role of ^{18}F -FDG PET/CT has been assessed as an imaging method for the diagnostics of complications from infectious endocarditis. (G_7-11)

Teaching activities

Assoc. Prof. Chaushev delivers lectures and seminars for the Bulgarian and international students of medicine in the fourth year, dental medicine, nurses, the Medical College in Varna (X-ray laboratory assistants). He takes part in the examination commissions of the above students.

He is a member of the Academic Council of Medical University “Prof. Dr. Paraskev Stoyanov” – Varna.

Four PhD students have acquired the educational scientific degree “Philosophy Doctor” under his supervision. Four residents have successfully passed the state examinations in nuclear medicine. He also participates in the state commission for specialty acquisition at the Ministry of Health. He is actively involved in the main lecture course of nuclear medicine.

Since 2018 Assoc. Prof. Chaushev has been Head of the Department of Paradontology and Dental Implantology at the Faculty of Dental Medicine, Medical University “Prof. Dr. Paraskev Stoyanov” – Varna, which undoubtedly proves his organizational and administrative experience.

Assoc. Prof. Dr. Chaushev is an organizer and co-organiser of a number of educational and scientific fora in Bulgaria with international participation as well as in events organized by

the Clinic of Nuclear Medicine and Metabolic Therapy at “St. Marina” University Hospital in Varna and Medical University “Prof. Dr. Paraskev Stoyanov” – Varna.

Clinical work

Assoc. Prof. Dr. Chaushev takes an active part in the everyday work of the Clinic of Nuclear Medicine and Metabolic Therapy at “St. Marina” University Hospital in Varna. Since 2020 he has been Head of the Clinic, which is yet another argument for his organizational experience. He has mastered all the techniques and methods of work. Together with his colleagues from the Clinic he works actively as a leading specialist in nuclear medicine and he has an excellent collaboration with all clinics at “St. Marina” University Hospital – Varna and from all over the country.

Conclusion

Assoc. Prof. Dr. Chaushev is a lecturer and specialist in nuclear medicine with serious practice and experience. He is respected not only by his colleagues in the field of imaging diagnostics but also by the professionals from the other clinical specialties. He possesses organizational and administrative skills.

The presented scientific works are evidence of his creative, scientific and researcher’s spirit and they have a methodological and applied practical nature. The publications and the articles delivered at international scientific fora contribute to the development of the nuclear medicine in Bulgaria and its consolidation globally.

In view of the above scientific contributions, the researcher’s, teaching, clinical and administrative experience, I reckon that Assoc. Prof. Dr. Chaushev meets the requirements of the Act and the Regulations for the Development of the Academic Staff in the Republic of Bulgaria as well as the Regulations of Medical University “Prof. Dr. Paraskev Stoyanov” – Varna and I recommend to the distinguished members of the Scientific Jury to confer to **Assoc. Prof. Dr. Borislav Georgiev Chaushev the academic position of “Professor”**.

Prof. Aneliya Klisarova. MD, PhD, DSc

Varna

31.08.2022

