

## **Statement of opinion**

from **Assoc. Prof. Dr. Borsilav Chaushev, MD, PhD**  
Head of Department of Paradontology and Dental Implantology  
Faculty of Dental Medicine  
Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

for dissertation thesis for obtaining the educational and scientific degree  
**"Philosophy Doctor"**  
in the field of higher education 7. Healthcare and sports,  
professional division 7.1. Medicine, scientific specialty "Medical radiology and X-ray  
treatment (including use of radioactive isotopes)".

**Dr. Tsvetelina Yordanova Petrova - Georgieva,**  
Department of Imaging Diagnostics, Interventional Radiology and Radiotherapy  
Faculty of Medicine  
Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

Title of the dissertation thesis:

### ***Role of 18F-FDG PET/CT in the diagnostic algorithm in malignant epithelial tumors of head and neck***

Dear members of the scientific jury,

By Order № P-109-437 from 05.11.2021 of the Rector of the Medical University of Varna, I was selected to participate as a member of the scientific jury with a statement of opinion regarding the defense of the PhD thesis of Dr. Tsvetelina Yordanova

#### **1. Significance of the problem and formulation of the purpose and tasks:**

The difficulties in diagnosing malignant epithelial tumors in the head and neck contain the topicality and the significance of the problem and therefore, they are subject of an interdisciplinary work of specialists from different clinics. The cases of head and neck tumors as well as those of unknown primary focus become more and more frequent with age. The visualization of the primary tumor and its spread is of particular importance for the determination of the subsequent therapeutic behavior.

The purpose is clearly defined and is related to the role of 18F-FDG PET/CT in the diagnostic algorithm in malignant epithelial tumors of the head and neck. The tasks defined by the candidate are 6. They are appropriately formulated and correspond to the aim of the study.

## **2. Dissertation structure:**

The dissertation follows the classical structure. It contains 121 pages with the following chapters: literature review, objective and tasks, material and methods, results and discussion, conclusions, contributions, recommendations for the practice, frequently asked questions and the related recommendations and CV. The thesis contains 28 tables, 22 graphs, 8 charts and is illustrated with 13 figures.

The proportions between the different chapters are observed. I would like to emphasize the fact that every chapter of the dissertation paper follows the logic of the set tasks and objective and the conclusions follow naturally from own results, the statistical data processing and the discussions.

## **3. Literary awareness of the candidate:**

The literary review of the dissertation thesis is made on 22 pages. The author makes a profound analysis of the available literature and proves that summarized and systematic data are still scarce state-of-art application of 18F-FDG PET/CT in different localizations of the malignant epithelial tumors of the head and neck. She also compares the application of this method with other imaging and physical methods. The conclusions from the literary review are specific and are directly related to the purpose and tasks of the scientific study.

## **4. Methodological level and design of the scientific research:**

Subject to the scientific study are 205 patients who underwent 308 18F-FDG PET/CT investigations. The patients are with different localizations and have undergone physical examination and CT investigations as well as histological verification after which they were followed up for a minimum of 12 months. The results were processed by means of statistical methods.

The research methods and the clinical material enabled the author to achieve the set goal and solve the specific tasks.

## **5. Correspondence between the objective, results and conclusions:**

The set purpose, the obtained results, the discussion and the drawn conclusions logically correspond to each other. The presentation of own results and discussion are elaborated on 72 pages and are richly illustrated. The determined tasks are detailed and discussed. The author points out the importance, the advantages and the drawbacks of the used methods with an accent on the role of 18F-FDG PET/CT in the diagnostic algorithm in malignant epithelial tumors of the head and neck.

## **6. Analysis of the conclusions and the contributions:**

The dissertation thesis finishes with 11 conclusions and, in my opinion, 9 contributions although they are formulated as 5. I accept the contributions according to the author's self-assessment and I would like to point out that the PhD thesis is the first of its kind on the diagnostic possibilities of 18F-FDG PET/CT for the localization of a primary tumor focus in patients with unknown primary focus and histologically proven metastatic neck nodes from flat cell cancer. For the first time in Bulgaria quantitative and qualitative evaluation is applied for the metabolic response in patients with malignant epithelial tumors of the head and neck. It is particularly noteworthy that the author offers recommendations to the clinical practice and the frequently asked questions and data from our experience which find specific answers.

## **6. Nature of the critical remarks and recommendations:**

I have no critical notes to pose any doubt as to the methods, the evidence material, the discussion of the obtained results and the recommendations made.

## **8. Publications and participation in scientific events:**

It is stated in the dissertation summary that the scientific research of the candidate on the dissertation topic have been published in 3 scientific journals and 4 scientific fora, of which three peer-reviewed abstracts, two published in the European Journal of Nuclear Medicine (2020) and one in E-journal of Otorhinolaryngology (2020), with high impact factor – 19.529.



**Personal impressions from the candidate:**

Dr. Tsvetelina Yordanova is an established specialist in nuclear medicine. She is among the young colleagues, who constantly develop and is interested in her everyday practice and the novelties in our field. She is punctual, loyal to her colleagues and responsible not only to the members of the team of the Clinic of Nuclear Medicine but also to her colleagues from the other specialties.

**9. Conclusion:**

Having in mind the scientific merits of the dissertation thesis, namely the topicality of the problem and the obtained results, the significant conclusions and contributions of the candidate, I firmly recommend to the members of the scientific jury to confer the educational and scientific degree “Philosophy Doctor” to Dr. Tsvetelina Yordanova Petrova – Georgieva for her dissertation work entitled *Role of 18F-FDG PET/CT in the diagnostic algorithm in malignant epithelial tumors of head and neck.*

14.12.2021

Varna



Assoc. Prof. Dr. Borsilav Chaushev, MD, PhD