

**TO  
THE CHAIRMAN OF THE SCIENTIFIC JURY  
TO THE FACULTY OF MEDICINE AT MU PLOVDIV  
ON THE PROCEDURE  
FOR THE DEFENSE OF A DISSERTATION  
FOR THE ACQUISITION OF THE EDUCATIONAL  
AND SCIENTIFIC DEGREE "DOCTOR"**

## **External Examiner Report**

by

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Department of "General and Clinical Pathology, Forensic Medicine and Deontology"

Medical University "Prof. Dr. Paraskev Stoyanov" – Varna

Regarding the defense of the dissertation of Dr. Alexander Ivanov for the award of the educational and scientific degree "Doctor" in the field of higher education 7., Health and Sports, professional field 7.1. "Medicine", scientific specialty "Pathology and Cytopathology"

By Order No. R-1075/17.02.2026 of the Vice-Rector of the Medical University of Plovdiv, I was appointed as an external member of the Scientific Jury, and pursuant to Protocol No. 1/19.02.2026, I was assigned to prepare an opinion (in Bulgarian and English) within the procedure for awarding the educational and scientific degree "Doctor" in the field of higher education 7. "Healthcare and Sports", professional field 7.1 "Medicine", doctoral programme "Pathology and Cytopathology", to Dr. Aleksandar Georgiev Ivanov, a full-time PhD student at the Department of General and Clinical Pathology, Medical University – Plovdiv.

**Topic of the dissertation:** "Analysis of oral and maxillofacial biopsies for the period 2009–2019 at the University Hospital "St. George - Plovdiv" EAD"

**Scientific supervisor:** Assoc. Prof. Dr. Iliya Bivolarski, MD, PhD

### **I. Details of the procedure**

Dr. Alexander Ivanov has been enrolled as a doctoral student in a full-time form of study for the acquisition of the scientific and educational degree "Doctor" in the doctoral program "Pathology and Cytopathology," with an enrollment order No. P-3254/14-12-2022 from the Rector of MU-Plovdiv.

Based on protocol No. 8/05.11.2025 of the decision of the Department Council of the Department of General and Clinical Pathology on the readiness for public defense, Dr. Alexander Ivanov was granted the right to defend - Order No. R-1075/17.02.2025 of the Rector of MU-Plovdiv.

The set of documents submitted by the candidate are in accordance with the requirements of the Law on Academic Affairs and the Regulations for Academic Development of MU-Plovdiv (2021).

## **II. Biographical data and career development**

Dr. Alexander Ivanov was born on December 29, 1990 in the city of Plovdiv. In 2017, he graduated from the Medical University of Plovdiv - Master of Medicine. Since November 2017, he has been a part-time assistant at the Department of General and Clinical Pathology at the Medical University of Plovdiv, and since February 2018, he has been appointed as a full-time assistant at the same department. Dr. Ivanov teaches students in Bulgarian and English language in the specialties of "medicine", "dental medicine", "pharmacy", nurses, midwives and physician assistants.

Dr. Ivanov is a member of the Bulgarian Medical Association, the Bulgarian Society of Pathology, the European Society of Pathology and the Confederation of Bulgarian Unions of Industrialists and Laborers. The doctoral student has participated in five articles, four of which are on the topic of the dissertation. There is also one "citation" in 2021.

PhD student Dr. Ivanov is fluent in English and French.

## **III. Relevance of the topic of the dissertation**

The dissertation examines a significant problem in modern pathology – the clinical-morphological correlation in biopsy diagnostics of lesions in the oral and maxillofacial area. This area is characterized by an exceptional morphological diversity – from reactive and inflammatory processes to precancerous and malignant neoplasms, which places high demands on pathomorphological diagnostics. Of particular importance is the analysis of the correspondence between clinical and histological diagnosis, which is directly related to the quality of the diagnostic process.

## **IV. Structure of the dissertation**

The presented dissertation work of Dr. Alexander Ivanov is 148 pages long and includes 19 figures, 23 tables and 18 photos. The bibliography includes 212 authors, of which 8 are in Cyrillic and 204 in Latin. The work is written in Bulgarian (and English), structured according to the standard scheme: Title – 1 page, Table of Contents – 2 pages, Abbreviations used – 1 page, Introduction – 1 page, Literature review – 40 pages, Aim and objectives – 1 page, Materials and methods – 4 pages, Results – 48 pages, Discussion – 15 pages, Key findings and conclusions – 2 pages, Contributions – 2 pages, Bibliography – 12 pages, scientific publications related to the topic – 1 page and Appendices – 18 pages.

**The introduction** is clearly formulated and outlines the guidelines of the problem under consideration and the need for its development.

**The literature review** is extensive, well-structured, with an outlined analytical approach to the available scientific information, covering contemporary aspects of the pathology of the oral and maxillofacial region and representing a reliable basis for the interpretation of one's own results. It examines in detail the main groups of pathological processes - inflammatory, reactive,

precancerous and neoplastic lesions, while at the same time paying due attention to their morphological characteristics and diagnostic criteria.

**The review** presents current classification systems, including those of the WHO, as well as modern concepts of histogenesis and biological behavior of lesions.

**The aim** of the dissertation is clearly formulated - to perform a comparative clinical and morphological analysis of oral and maxillofacial biopsies, and the resulting 6 tasks correspond to the main goal of the study.

**Materials and methods.** The present study is retrospective, and an impressive number of biopsies – 6038, were studied and analyzed over a period of 11 years. The biopsy cases were statistically processed according to multiple indicators, including: gender, age, referring clinic, localization of the process, results of previous examinations, type of biopsy, clinical diagnosis, used pathomorphological methods of examination, pathoanatomical diagnosis, the coincidence of clinical and pathomorphological diagnoses, results of subsequent external or internal consultations, revising the diagnosis. The research methods used include both routine, classical histological methods of staining with hematoxylin-eosin, and specific histochemical and immunohistochemical research methods.

For the statistical analysis of the data, specialized software IBM SPSS v.21 was used. The following statistical analysis methods were applied: descriptive, correlation, and logistic regression.

**Results and discussion.** The results of the dissertation are based on a significant volume of material, including 6038 biopsies from 5218 patients, which ensures a high degree of representativeness and reliability of the analysis. A systematization of lesions in the oral and maxillofacial region was performed, and a predominance of non-tumor lesions (28%), including inflammatory and reactive processes, was found, followed by cystic formations (19.7%), benign tumors (19.3%) and malignant neoplasms (16.6%), which is consistent with the data from the literature. The analysis shows clearly pronounced age-sex dependencies, with certain nosological groups demonstrating a characteristic distribution by sex and age groups.

The clinicopathological analysis is particularly important, in which it was found that in a significant percentage of cases there is a correspondence between the clinical and histological diagnosis, but cases of diagnostic discrepancies have also been identified, and through statistical analysis (including logistic regression) the factors that determine them have been determined. Cases of rare granulomatous, neoplastic processes and bisphosphonate-associated necrosis of the jaws have been described.

In the discussion, the results obtained are compared with data from the international literature and modern classification systems, establishing good agreement regarding the spectrum and frequency of oral lesions. The observed differences are interpreted critically, taking into account factors such as characteristics of the study population, diagnostic criteria and interobserver variability in morphological assessment.

The discussion is analytical in nature and contributes to a better understanding of diagnostic difficulties and opportunities for increasing accuracy in pathomorphological practice.

The results of the conducted study have both scientific and pronounced practical value, related to improving diagnostic accuracy and optimizing clinical-morphological correlation. From them, 8 conclusions arise, which are precisely formulated, logically justified and have a direct connection with the results of the analysis performed. They emphasize the importance of clinical-morphological correlation and the role of histological verification in increasing diagnostic accuracy in oral and maxillofacial lesions. The formulated 11 contributions are divided into 1. Contributions of an original nature (5 pcs.), 2. Contributions of a confirmatory nature (4 pcs.) and 3. Contributions of a practical nature (2 pcs.).

In connection with the dissertation work, **4 full-text publications** are presented, 3 of which are in foreign journals, and one is in a Bulgarian journal. In all of the mentioned publications, Dr. Ivanov is the first author. In addition to the publications, the doctoral student's participation in national conferences with presentations on the topic of the dissertation work is also listed.

**The abstract** is written on 63 pages and represents the structure and content of the dissertation, providing an opportunity for a clear and complete introduction to the goals, objectives, results, discussion, conclusions and contributions of the work. The abstract is well illustrated with tables, graphs and photos, and reflects the main results described in the dissertation.

I recommend that the doctoral candidate continue their research activity and in-depth morphological studies in the field under consideration. They could expand the analysis of differential diagnostic challenges in certain morphological entities, as well as, in specific cases, further elaborate on the role of immunohistochemistry in the differential diagnosis. The above recommendations are intended solely to support the future development of the research work and do not diminish the scientific value of the presented dissertation.

## V. Conclusion

The dissertation of Dr. Aleksandar Ivanov, written in a highly refined scientific style and appropriately illustrated, represents a complete, methodologically substantiated, and morphologically well-argued scientific study, contributing to clinical and diagnostic pathology. The presented dissertation demonstrates that Dr. Ivanov possesses in-depth theoretical knowledge and skills in the scientific specialty of "Pathology and Cytopathology," and shows the ability to independently conduct scientific research. I consider that the work fully meets the requirements of the Academic Staff Development Act in the Republic of Bulgaria, the Regulations for its implementation, as well as the respective regulations of the Medical University of Plovdiv. In view of the above, I confidently declare to the members of the Scientific Jury that I vote in favor of awarding Dr. Aleksandar Georgiev Ivanov the educational and scientific degree of "Doctor" in the scientific specialty "Pathology and Cytopathology."

31.03.2026

City of Varna

Prepared by:

(Assoc. Prof. Dr. Nadezhda Todorova Stefanova, MD, PhD)

Залчено на основание  
Чл.5 §1, 6."В" Регламент (ЕС)2016/679