WRITTEN OBSERVATION

by

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in his capacity as a member of the Scientific Jury, appointed by Order of the Rector of the Medical University – Plovdiv No. R-1075/17.02.2026

concerning the dissertation entitled:

"Analysis of Oral and Maxillofacial Biopsies for the Period 2009–2019 at St. George University Hospital – Plovdiv"

submitted for the award of the educational and scientific degree Doctor (PhD)

in the scientific specialty: Pathological Anatomy and Cytopathology

Professional field: 7.1 Medicine

Field of higher education: 7. Healthcare and Sports

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The submitted dissertation is structured in a conventional format and comprises 148 pages, including: introduction (1 page), literature review (39 pages), aims and objectives (1 page), materials and methods (4 pages), results

(47 pages), discussion (15 pages), conclusions (2 pages), contributions (2 pages), and bibliography.

The bibliography includes 212 references, 8 of which are in Cyrillic. The dissertation is additionally illustrated with 18 figures (including 14 microscopic images), 23 tables, and 19 graphs.

The work is based on a large-scale retrospective analysis of 6038 biopsies from 5218 patients over an 11-year period (2009–2019), conducted at St. George University Hospital – Plovdiv.

This substantial dataset ensures high representativeness and allows for reliable statistical and clinicopathological conclusions.

Oral and maxillofacial pathology represents a complex and interdisciplinary field involving several medical specialties. Diseases in this anatomical region often present with non-specific clinical features and may involve adjacent structures, which complicates diagnosis.

In this context, biopsy remains a key diagnostic tool; however, its effectiveness depends on multiple factors, including: the accuracy of clinical assessment, the quality of the sampled material, the correctness of morphological interpretation.

Particularly significant is the issue of early diagnosis of malignant and precancerous lesions, where delays may lead to a substantial deterioration in prognosis.

The present dissertation addresses precisely this issue through the analysis of a large number of diagnostic cases over more than a decade, which determines its relevance and high practical value.

The literature review is extensive and well-structured, covering the development of oral pathology, epidemiology of diseases, anatomical and embryological features, contemporary classifications (including WHO 2005–2023) and clinical and morphological aspects of biopsies.

A particularly important aspect is the discussion of precancerous lesions (leukoplakia, erythroplakia), issues related to terminology and diagnostic criteria and the role of immunohistochemistry.

The author correctly emphasizes that clinical terms often do not correspond to a specific morphological diagnosis, which may lead to diagnostic discrepancies.

Based on the literature review, the author formulates a clearly defined aim, which includes not only the analysis of biopsy material but also the evaluation of clinicopathological concordance, with the intention to improve diagnostic approaches and contribute to dental education.

The objectives are logically structured and directly related to the aim, including: analysis of nosological entities, investigation of demographic characteristics, topographical distribution, clinicopathological correlation, analysis of rare cases.

The methodological approach is appropriate and includes retrospective analysis, histological and immunohistochemical methods, statistical analysis and logistic regression models.

Particularly noteworthy is the application of multifactorial analysis to assess the concordance between clinical and pathological diagnoses, which represents a higher methodological level compared to standard descriptive studies.

The results are detailed and encompass 6038 biopsies from 5218 patients,

analysis by age, sex, and localization, distribution across nosological entities, clinicopathological concordance

A key finding is overall concordance between clinical and pathological diagnosis - 74.7%, discordance - 25.3%, primary biopsies -75.4% concordance subsequent biopsies - 70.6%.

Differences are associated with certain anatomical sites and specific clinical diagnoses, and factors influencing diagnostic accuracy are analyzed.

The discussion includes a comparison between the author's findings and data reported in the literature. Variations in disease frequency, the influence of classification systems, and the importance of clinical information are highlighted, consistent with other studies.

It is emphasized that accurate diagnosis depends significantly on clinical documentation, clinician input, prior investigations, the application of modern morphological methods such as immunohistochemistry, professional expertise.

The contributions of the dissertation can be classified as follows:

- original contributions - first large-scale study of this kind in Bulgaria, analysis of clinicopathological concordance, application of logistic regression models ;
- confirmatory contributions - identification of rare diseases and their role in differential diagnosis, confirmation of the importance of clinical history ;
- practical contributions - facilitation of the diagnostic process, application of findings in medical education.

A significant aspect of the contributions is their educational orientation, including updating curricula, incorporation of real clinical data, alignment with modern classifications.

In addition to its merits, several critical remarks may be made the literature review could be more concise, parts of the discussion deviate from the main focus, clearer differentiation between groups of diseases could be achieved. These limitations, however, do not diminish the overall value of the work.

The dissertation represents a completed, well-structured, and methodologically sound scientific study with clear practical and educational significance. Through its scope, analytical depth, and clinical orientation, it contributes to a better understanding of oral and maxillofacial pathology and has the potential to improve diagnostic practice.

The main results of the dissertation have been summarized in four scientific publications, one of which is indexed in Web of Science. Dr. Ivanov is the first author in all four publications. Additionally, results have been presented in three scientific conferences in Bulgaria.

Based on the above, I consider that the dissertation meets all requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria and the regulations of the Medical University – Plovdiv.

Therefore, I will vote in favor of awarding the educational and scientific degree Doctor (PhD) in the doctoral program Pathological Anatomy and Cytopathology to Dr. Aleksandar G. Ivanov, and I recommend that the other members of the Scientific Jury also vote positively.

03.04. 2026

Prof. Dr. V. Belovezhdov, MD, PhD