

REVIEW

from

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Department of Periodontology and Dental Implantology

Faculty of Dental Medicine,

at Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

**Member of a scientific jury according to Order No. R-109-393 / 07.09. 2023 by the
Rector of Medical University "Prof. Dr. Paraskev Stoyanov" - Varna**

About dissertation paper on topic

**" Studying the results of the application of autogenous, platelet-rich
plasma at regenerative therapy of vertical bone defects "**

For awarding the educational and scientific degree "PhD"

Field of higher education: 7. Health care and sports

Professional direction: 7.2 Dental medicine

Doctoral program: "Therapeutic Dentistry"

Author of the dissertation: Dr. Tsvetalina Ivanova Gerova-Vatsova

Form of doctoral studies: regular form

Department: "Periodontology and Dental Implantology", FDM, MU-Varna

Scientific supervisor: Prof. Dr. Stefan Vasilev Peev, DMD, PhD, DSc

1. General presentation of the procedure and the doctoral student

The review was prepared following order No. R-109-393/07.09.2023 by the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" - city of Varna.

The presented set of materials on an electronic medium is in accordance with Art. 70 (1) of I. Section. Acquisition of educational and scientific degree "PhD" at MU-Varna and the corresponding regulations of MU-Varna and includes all necessary documents.

The dissertation contains 230 standard pages and is illustrated with 93 tables, 86 figures, 3 equations and contains 26 appendices. 396 literary sources are cited, of which 6 are in Cyrillic and 390 are in Latin.

The doctoral student has attached evidence for 5 publications related to the dissertation work.

2. Biographical data of the doctoral student

Dr. Tsvetalina Gerova-Vatsova was born on February 21, 1992. She completed her secondary education with honors in 2011 at Math and Science High School "Nancho Popovich" in Shumen. In 2017, she graduated as a "Master of Dental Medicine" in FDM at the Medical University - Varna. In the same year, after a competitive exam, she was appointed a full-time assistant at the Department of Periodontology and Dental Implantology, FDM, MU-Varna, where she works to this day. In 2023 she acquired a specialty in "Periodontology and diseases of the oral mucosa". From June 2023 holds the position of "administrative assistant" at the Department of Periodontology and Dental Implantology.

Dr. Gerova-Vatsova is involved in teaching students in Bulgarian and English. She speaks English.

She is a member of BZS and the Bulgarian Society of Periodontology.

3. Relevance of the topic

Periodontitis is one of the most widespread socially significant diseases in the oral cavity after dental caries, which every dentist encounters in his daily practice. Today, the main goal of periodontal therapy consists in the elimination of the main etiological factor - the periodontopathogenic microorganisms and regeneration of the destructured periodontal tissues.

Over the years, the development of advanced biomaterials has significantly improved the results of the application of various regenerative methods. Different barrier membranes, bone repair materials, different growth factors and combinations of these are used today. The topic of the PhD student is relevant, as there is still no definite conclusion about which material is most suitable for application in regenerative therapy of vertical bone defects. On the other hand, autogenous, platelet-rich plasma has been the subject of numerous studies, but always in combination with bone-restorative material.

This implies the need for more in-depth research and evaluation of the results of the application of autogenous, platelet-rich plasma in regenerative therapy of vertical bone defects both alone and in combination only with a barrier membrane, without bone-restorative material. For maximum objectivity, the results of the performed regenerative methods are intended to be evaluated both clinically and through imaging, using a cone beam tomograph (CBCT).

4. Literary awareness

In her dissertation work, Dr. Tsvetalina Gerova-Vatsova demonstrates in-depth knowledge of the developed topic. The literature review is presented on 44 pages, based on 396 literary sources. The literature review is comprehensive and up-to-date.

5. Purpose and tasks

After a critical analysis of the literature review, the doctoral student sets a precise and clear goal: "To determine the effectiveness of the administration of autogenous platelet-rich plasma in the regenerative therapy of vertical bone defects. "

To achieve the goal, the following tasks are set:

1. Study of the effectiveness of the application of regenerative therapy with autogenous, platelet-rich plasma in vertical defects
2. Investigation of the effectiveness of the application of regenerative therapy with enamel matrix derivatives in vertical bone defects
3. Study of the effectiveness of the application of guided tissue regeneration in vertical bone defects with:
 - 3.1. Barrier membrane
 - 3.2. Barrier membrane and autogenous platelet-rich plasma

The fixed clinical tasks are logically related to the set goal of the dissertation work. The selected clinical and imaging methods for evaluating the results, after a regenerative therapy have been performed, allow for a thorough analysis and to achieve the goal of the dissertation work.

6. Material and methodology

The materials and methods are precisely selected to obtain reliable results and are closely related to the current understanding of the treatment sequence of patients with periodontal disease. The work protocol for all groups of patients, regardless of which of the regenerative therapy methods was used, is described and performed according to the fundamental principles in modern Periodontology.

7. Results and analysis of results

The results and discussion of the doctoral student's research are correctly systematized according to the tasks, presented in detail and statistically analyzed. They reflect the doctoral student's in-depth knowledge of the problem.

The analysis of the data from task 1 demonstrates the high potential of autogenous platelet-rich plasma (PRP) as a stand-alone material in periodontal regenerative therapy for vertical bone defects.

The analysis of the data from task 2 confirms the already repeatedly proven biologically active qualities of the enamel matrix derivatives, which is why we still accept regenerative therapy using EMD as a standardized method.

Analysis of the data from Task 3 highlights the synergistic potential of the compelling role of the barrier membrane and the qualities of autogenous platelet-rich plasma (PRP).

8. Conclusions and contributions

11 conclusions have been drawn, resulting from the analysis of the obtained results. 8 contributions were found, divided into three groups as follows:

Original contributions

1. For the first time, the effectiveness of the application of guided tissue regeneration with a barrier membrane and autogenous platelet-rich plasma in vertical bone defects is investigated.
2. For the first time, PRP and enamel matrix derivatives (EMD) in regenerative therapy of vertical bone defects are compared.
3. For the first time, clinical and CBCT outcomes of guided tissue regeneration with barrier membrane alone and with barrier membrane and autogenous platelet-rich plasma (PRP) are compared.

Original contributions to the country

1. For the first time, the effectiveness of the application of autogenous, platelet-rich plasma (on its own) in the regenerative therapy of vertical bone defects was investigated.

Affirmative Contributions

1. We have confirmed the high potential of autogenous platelet-rich plasma (PRP) in regenerative therapy.
2. We have confirmed the proven effectiveness of the application of enamel matrix derivatives (EMD) in the regenerative therapy of vertical bone defects.

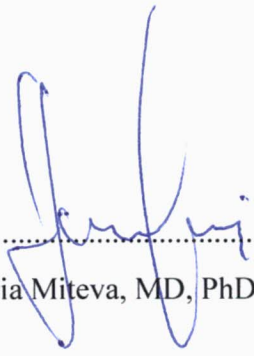
3. We confirmed the proven effectiveness of barrier membrane alone in guided tissue regeneration of vertical bone defects.
4. We have confirmed that, regardless of the performed method (of the four studied) of regenerative therapy in vertical bone defects, a significant improvement in clinical and paraclinical indicators is observed.

CONCLUSION

The presented dissertation work of Dr. Tsvetalina Ivanova Gerova-Vatsova on the topic: "Studying the results of the application of autogenous, platelet-rich plasma at regenerative therapy of vertical bone defects" meets all the requirements of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Regulations for the implementation of DASRBA and the Regulations of MU - Varna.

The dissertation work shows that the doctoral student has all the qualities and skills to conduct independent scientific research. All this gives me reason to vote positively for awarding the educational and scientific degree "PhD" in the doctoral program "Therapeutic Dentistry" to Dr. Tsvetalina Ivanova Gerova-Vatsova.

07.11.2023

Prepared the review:
/ Assoc. Dr. Maria Miteva, MD, PhD /