Report

from

Prof. Tihomir Dobrinov Georgiev, MD

Appointed as a member of the Scientific Jury by order of the Rector of MU-Varna R-109-393 /07.09.2023

On a dissertation for the award of a scientific and the educational degree "PhD" of Dr. Tsvetalina Ivanova Gerova-Vatsova on the topic: "Studying the results of the application of autogenous, platelet-rich plasma in regenerative therapy of vertical bone defects".
Field of higher education: 7. Health care and sports; professional direction 7.2. Dental Medicine; doctoral program "Therapeutic Dentistry".

Biographical part:

Dr. Tsvetalina Ivanova Gerova-Vatsova was born in 1992 in Novi Pazar. In 2017 she graduated from Medical University - Varna. In the same year, she became an assistant at the Department of Periodontology and Dental Implantology and worked as a dental doctor at UMDC. She was enrolled as a full-time doctoral student in 2019. In 2023, she majored in Periodontology and diseases of the oral mucosa and was appointed an administrative assistant at the same department.

Participation in projects: Infrastructure project for conducting qualitative and competitive scientific research

Topic: Creation of a laboratory for the production of allogeneic bone transplants and evaluation of the effect of their application by means of histomorphometric analysis of hard sections.

Classes in academic disciplines:

Periodontology and diseases of the oral mucosa

Publications:

- Gerova-Vatsova, Tsvetalina, & Stefan Peev. "Application of autogenous platelet-rich plasma in periodontology." Scripta Scientifica Medicinae Dentalis [Online], 9.1 (2023): 43-50. Web. 11 September 2023
- Tsvetalina Gerova, Mariya Miteva, "Barrier Membranes used in Guided Tissue Regeneration - Advantages and Disadvantages", International Journal of Science and Research (IJSR), Volume 8 Issue 10, October 2019, 1472 – 1475

- Mariya Miteva, Tsvetalina Gerova, "Bone Repair Materials Used in Guided Tissue Regeneration - Advantages and Disadvantages", International Journal of Science and Research (IJSR), Volume 8 Issue 10, October 2019, 1490 – 1494
- Tsvetalina Gerova, Mariya Miteva, "The Role of CBCT-Imaging Technique in Periodontology", International Journal of Science and Research (IJSR), Volume 8 Issue 11, November 2019, 51 – 54
- Tsvetalina Gerova, Mariya Miteva, "Application of Two-Dimensional Radiography and CBCT in Periodontology", International Journal of Science and Research (IJSR), Volume 8 Issue 11, November 2019, 61 – 65
- Gerova-Vatsova, T. Periodontal splinting – an adjunct to periodontal therapy. Scripta Scientifica Medicinae Dentalis, 6(1) , 2020, 7-12.

Participation in conferences :

- Tsvetalina Gerova, Stefan Peev "Outcomes of the application of particulate allogeneic bone graft by guided tissue regeneration" The 28-th Annual Assembly of International Medical Association Bulgaria (IMAB), Varna 2018, May 2018
- Tsvetalina Gerova, Mariya Miteva "Endo-periodontal lesions - conservative treatment or surgery" The 28-th Annual Assembly of International Medical Association Bulgaria (IMAB), Varna 2018, May 2018

Courses, symposia, forums, etc.

- The 8th international Symposium "Sofia Dental Meeting" - 2015;
- The 9th international Symposium "Sofia Dental Meeting" - 2016;
- International convention for advanced dentistry - Modern implantology - aesthetics and digital solutions, Prof. Dr. Stefan Peev, September 23, 2017.
- Theoretical and practical course "Clinical applications of lasers in dental medicine", Assoc. Dr. Georgi Tomov, 2017;
- The 10th international Symposium "Sofia Dental Meeting" - 2017;
- University course "Direct restorations in the anterior and posterior region - theory and practice", 12.11.2017, MU-Varna
- Varna Dent Regional Forum, 2018
- 28-th Annual Assembly of IMAB and 5-th International Meeting of Alumni Club at Medical University Varna 13 - 16 May 2018, Congress center, Hotel Admiral, Resort Golden Sands, Varna, Bulgaria
- Varna Dent Regional Forum, 2019
- Official forum "BULPERIO" - May 16, 2019.

- International scientific conference "Periodontology and Friends" - November 11-13, 2021.
- Varna Dent Regional Forum, 2022. – 19.03.2022
- Practical and lecture course "Reconstructive Periodontal Surgery" in Sofia, Bulgaria, April 2, 2022, prof. Adian Kasaj.
- XII scientific congress of SRK of BZS Sofia - 17-19.02.2023.
- RFDM BAPHA DEHT 2023 – 18-19.03.2023
- "IMPLANTING IN TOTHLESS PATIENTS - SURGICAL APPROACH AND IMMEDIATE PROSTHESIS" - lecturer: Dr. ALGIRDAS PUISYS, 10.03.2023
- Sixth scientific congress "Science and practice - hand in hand" - 21-23.04.2023.

Languages

Bulgarian language:
Level of Comprehension - High Level of Speaking - High Level of Writing - High

English Language:
Comprehension Level - Intermediate Speaking Level - Basic Writing Level - Basic

Professional and social skills

Social skills and competences - Good communication skills and quick adaptation, excellent teamwork, loyalty, resourcefulness, confidentiality, creativity, responsibility, correctness, organization and attention to detail.

Computer Skills and Competencies - Excellent MS Office proficiency

Member of BZS.

II. Volume and structure of the presented dissertation work

The dissertation work developed by Dr. Tsvetalina Gerova-Vatsova, "Studying the results of the application of autogenous, platelet-rich plasma in regenerative therapy of vertical bone defects" is extremely up-to-date with its scientific and scientifically applied nature. It is written on 230 standard pages, of which 45 pages are literature review, aim and tasks - 1 page, own research including material and methodology, results and discussion - 105 pages, conclusion and conclusions - 4 pages. The work is illustrated with 86 figures, 93 tables, 3 equations, and 26 appendices.

The literature review thoroughly and consistently examines the problems, the methods of performing modern operative means of regenerative therapy and the different types of bone materials and membranes that are used to restore the lost bone deficiency.

In the section "Conclusion on the literature analysis", the author highlights the unresolved issues in the regenerative therapy of vertical bone defects in chronic periodontitis. On this

basis, Dr. Gerova reflects the significance of the problem and forms the purpose of the dissertation work. The bibliography contains 396 titles, of which 6 are in Cyrillic and 390 are in Latin.

III. Purpose and tasks

The aim of the present dissertation is: to establish the effectiveness of the application of autogenous, platelet-rich plasma in regenerative therapy of vertical bone defects.

To achieve the thus formulated goal, we set ourselves the following

Tasks:

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

IV. Relevance of the topic and appropriateness of the set goal.

The topic of the dissertation is significant for dentistry and periodontology in particular. It examines the effectiveness of regenerative therapy of vertical bone defects in periodontitis and demonstrates a variety of applied operative methods. Based on world and personal experience, the dissertation student analyzes results and creates a protocol for choosing the most adequate treatment approaches.

V. Results

Dr. Gerova comprehensively and analytically presents the results of the patients treated and monitored by her. The diverse and large volume of nosological units, the differences in the etiological nature of the disabilities and their anatomical and functional features, as well as the diversity of the operative methods used, represent a challenge with which the dissertation student has overcome. This confirms that the operative treatment methods applied and the clinical material analyzed are her personal work.

VI. Conclusions

Based on the reported and analyzed clinical results, Dr. Gerova draws the following conclusions.

1. Half of the examined patients were under 45 years of age.

2. The distribution of the included participants by gender is as follows - women 56% and men 44%.
3. 50% of teeth with vertical bone defects are molars, followed by premolars with 29.17% and least in the area of frontal teeth – 20.83%.
4. In all studied patients of the four groups, an extremely high percentage of plaque and gingival index was observed immediately before the start of periodontal treatment. At the "Reevaluation" stage, a significant decrease in the values for both indices was observed in all four groups, but at the "Six months after regenerative therapy" stage, a rise in the results of the plaque index and, respectively, the gingival index was observed again.
5. In all studied patients from the four groups, a statistically significant reduction of the "Depth of probing" indicator was found.
6. In all studied patients from the four groups, no statistically significant results were established regarding the indicator "Level of Margo gingivalis".
7. A statistically significant gain in the clinical level of attachment was found in all studied patients from the four groups.
8. In all studied patients from the four groups, a statistically significant reduction of the distance from the CEJ to the base of the bone defect was found (CBCT indicator "A").
9. In all studied patients from the four groups, a statistically significant reduction of the distance from the CEJ to the highest bone point of the bone defect (CBCT indicator "B") was found.
10. In all studied patients from the four groups regarding the width of the bone defect (CBCT indicator "C") results on the borderline between statistical significance and non-significance are established.
11. In all examined patients - regardless of the applied method of regenerative therapy, an improvement in clinical and imaging parameters was observed. No statistically significant differences were found in the results of the four groups of patients.

VII. Contributions

Based on the research conducted and the conclusions drawn, the following contributions to science and practice can be made.

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, clinical and CBCT results of separately use of autogenous platelet-rich plasma (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.

VIII. Characterization and evaluation of the dissertation work

The research design includes properly selected materials and research methods in all tasks, which guarantees the reliability of the results and contributions of an original nature. The dissertation work of Dr. Gerova is structured correctly, contains all the elements of scientific development and meets the requirements of DASRBA and the Regulations for the development of the academic staff at the MU - Varna.

The results are correctly described and comprehensively analyzed. They cover all aspects of the set tasks, which allows the achievement of the set goal.

IX. Assessment of the dissertation's publications and personal contributions.

The list of publications provided by Dr. Gerova is 5 full-text publications printed in Bulgarian scientific journals. She is the lead author in four of the publications. This shows a good knowledge of the problem she is looking at and that she is suitable for working in a team.

The developed dissertation work is a personal work of the author in good collaboration with scientific units working in this field.

The abstract was developed in accordance with the accepted academic requirements. Its content and presentation cover all parts of the presented scientific work.

X. Conclusion

What has been said so far gives me reason to draw the following conclusion:

My overall assessment of Dr. Gerova's dissertation work on the topic "Studying the results of the application of autogenous, platelet-rich plasma in the regenerative therapy of vertical bone defects" is categorically positive. The work meets the criteria for a dissertation work for

awarding the scientific and educational degree "PhD", has a contributing character to dental medicine and periodontology in particular, clearly shows that Dr. Gerova knows thoroughly the modern specialized literature and has a rich clinical and research experience.

I definitely vote "YES" and propose to the respected members of the Scientific Jury to award Dr. Tsvetalina Gerova-Vatsova the scientific and educational degree "PhD".

Varna

8.11. 2023

Reviewer:

(Prof. Dr. Tihomir Georgiev, MD)