

To the Chairman of the Scientific Jury,
Appointed by an order of
The Rector of the Medical University - Varna,
№R-109-313 / 07.08.2020

OPINION

by
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Regarding a competition for acquiring the academic position of "Associate Professor" in the area of higher education 7. Healthcare and sports, professional field 7.2. Dentistry, specialty "Periodontology and diseases of the oral mucosa" for the needs of the Faculty of Dental Medicine, Department of Periodontology and Dental Implantology, in relation to an announcement in the State Gazette, issue. 53 of 12.06.2020

Documents for the competition have been submitted by one candidate –Chief Assistant Professor Dr. Maria Dimitrova Miteva-Hristova, PhD, which include all necessary documents according to art. 126 of the rules for Academic Development of the Academic Staff at Medical University - Varna.

I. Biography of the candidate:

Dr. Maria Dimitrova Miteva-Hristova, PhD was born on March 25, 1988 in Sliven. In 2013 she graduated from the Faculty of Dental Medicine, Medical University - Varna, and in 2017 she acquired PhD in "Therapeutic Dentistry" after defending a dissertation topic "Efficacy of high-energy lasers in non-surgical treatment of inflammatory periodontal diseases". She acquired the specialty "Periodontology and diseases of the oral mucosa" in 2018. Since 2013 he has been an assistant professor in the Department of Periodontology and Dental Implantology, and since 2018 - Chief Assistant.

II. Research activity of the candidate

Dr. Maria Dimitrova Miteva-Hristova has submitted for review the following scientific papers:

1. Monograph - "Non-surgical periodontal therapy - basic principles", 168 p.
2. Scientific publications - 20 pcs. full-text publications, of which 8 are the first or sole author.
3. Participation in congresses and conferences - 3 pcs.
4. Participation in research projects - 2 pcs.
5. Citation - 7 times, of which 1 in referenced editions.

III. Scientific fields of research:

1. Non-surgical treatment of inflammatory periodontal diseases
2. Additional methods in non-surgical periodontal treatment
3. Selection of materials in surgical periodontal therapy

4. Diagnostic imaging of the periodontium

IV. Evaluation of the contributions of the candidate's scientific work:

The main contributions of Dr. Miteva are in several areas:

DIRECTION 1:

Currently, the most widely accepted and effective approach to the treatment of periodontal diseases is the mechanical removal of bacterial biofilm and toxins from the root surface of the tooth - debridement, with the aim of reducing bacterial adhesion and facilitating cell re-attachment. Debridement is accepted as the "gold standard" in non-surgical periodontal therapy and is performed using a number of manual and machine instruments.

The presented habilitation paper examines in detail and step by step the non-surgical periodontal treatment. The anatomical characteristics of the periodontium, the classification of periodontal diseases, the described diagnostic methods, the detailed examination of the instruments and the sequence (algorithm) of work during the treatment. All this can help both students and interns in their training, as well as general practitioners in dental medicine.

The conclusions and contributions from the research made in the development of the dissertation show that non-surgical periodontal treatment is a basic and effective method. This approach eliminates inflammation, reduces probing depth, and demonstrates clinical attachment level gain. Non-surgical periodontal therapy requires consistency and good compliance of the patient. Healing of periodontal tissues after mechanical therapy can in many cases eliminate the need for surgical periodontal treatment. The study conducted proves and confirms the effectiveness of non-surgical periodontal therapy, which leads to the improvement of the studied clinical parameters. The results and their statistical processing showed the achievement of similar results between all studied groups and it was shown that debridement improves the clinical outcomes.

DIRECTION 2:

One of the most widely studied areas in recent years in terms of periodontal treatment is the clinical application of lasers. However, up to date, there is insufficient evidence showing a significant improvement in clinical parameters using lasers compared to conventional mechanical therapy (SRP). Lasers can be used as an adjunct or alternative to conventional, mechanical periodontal treatment.

For the first time in Bulgaria the clinical efficacy of Nd: YAG, Er, Cr: YSGG and diode lasers in non-surgical treatment of inflammatory periodontal diseases is compared. Studies have found that laser-assisted non-surgical treatment of inflammatory periodontal diseases has no benefits compared the use of periodontal curettes only.

The articles discuss the basic principles of action of lasers, both at clinical and microbiological level. The strong bactericidal effect of lasers, which makes them an independent part of periodontal treatment, is emphasized. Clinical and microbiological improvement is a combination of root surface conditioning, mechanical disorganization of biofilms and reduced viability of periodontal pathogens, as well as inactivation of bacterial endotoxins.

DIRECTION 3:

Bone repair materials are used to preserve or restore bone volume. Depending on their origin, there are several groups of bone repair materials: autogenous, allogeneic, xenogeneic and alloplastic. Autogenous, allogeneic and xenogeneic grafts are natural, and alloplastic are synthetic materials. Autogenous bone substitute is a bone material in which the donor and recipient lodges belong to the same individual. Allogeneic bone substitute is bone material from genetically different organisms belonging to the same species. By xenogeneic bone substitute is meant material of biological origin from a representative of a different species. Alloplastic bone substitute is a material of inorganic synthetic origin. The presented study shows that there are many different types of bone repair materials that must meet a number of requirements - to be biocompatible, easily formed, to allow new bone growth and remodeling and to have good mechanical properties.

Barrier membranes are resorbable and nonresorbable. The non-resorbable materials used in practice are polytetrafluoroethylene (PTFE) and titanium. Resorbable are collagen and synthetic. The presented study examines different types of barrier membranes, indications for their use in guided tissue regeneration. A study of the literature found that the results of the application of bone repair materials in combination with a barrier membrane are significantly better than the results of the application of bone repair material alone.

Enamel matrix derivatives (EMD) are a biological regenerative material and contain a mixture of low molecular weight proteins that can be absorbed on hydroxyapatite and collagen fibers in the root surface and cause cement formation. EMD can promote periodontal regeneration by inhibiting or delaying epithelial regeneration. The article shows that the clinical use of EMD is characterized as safe, with excellent clinical results and limited complications. EMD alone or in combination with bone repair material provide excellent clinical results and long-term stability.

DIRECTION 4:

The use of radiographic imaging is an essential and indispensable part of dental diagnosis. The information from these studies helps to assess the current condition of the tissues, develop a treatment plan and monitor the healing processes during treatment. The most widely used X-ray methods for determining the level and condition of alveolar bone in dentistry are intraoral periapical radiographs and orthopantomography (OPG).

Conical beam computed tomography (CBCT) is an imaging test needed for the correct three-dimensional diagnosis of anatomical features and bone changes. No overlaps of anatomical structures and image overlaps were observed in the CBCT images, and the literature study found that they were statistically more accurate in measuring the size of vertical alveolar bone defects compared to 2D radiographic studies. It has been shown that CBCT is able to provide improved visualization of the periodontium. Vertical bone defects, furcation defects, dehiscences and / or fenestration can be identified.

V. Teaching activity.



Dr. Maria Miteva, PhD conducts exercises and lectures at the Department of Periodontology and Dental Implantology of students of dental medicine in Bulgarian and English. Her workload is:

2015/2016 - 358 h.

2016/2017 - 373 h.

2017/2018 - 299 h.

2018/2019 - 291 h.

2019/2020 - 182 h.

Conclusion

I have known Dr. Maria Miteva since she was a student at MU-Varna. She is characterized by extreme curiosity, seriousness and in-depth theoretical comprehension. So far, she is a proven professional with excellent knowledge, original scientific ideas and organizational qualities, she is respected and loved by her colleagues and students. The presented scientific papers and references meet the accepted scientometric criteria provided in the Law for development of the academic staff in the Republic of Bulgaria and the rules for Academic Development of the Academic Staff at Medical University - Varna for holding the academic position "Associate Professor". I confidently suggest that the esteemed scientific jury votes in favor of the decision to award the academic position "Associate Professor" to Dr. Maria Dimitrova Miteva-Hristova, PhD in the field of higher education 7. Health and Sports, professional field 7.2. Dentistry, specialty "Periodontology and diseases of the oral mucosa".

09.10.2020

Prepared by:

Assoc. Prof. Dr. Georgi Papanchev, MD, PhD

