

Review
from Assoc. prof. Elka Radeva, DMD, PhD
Department of Conservative Dentistry, FDM, Sofia
External member of the Scientific council
(Order № P - 109-247/09.06.2021 of the Rector of MU Varna)

of a dissertation for awarding and educational and scientific degree “**Doctor**” in a scientific specialty 7.2. Dental medicine

doctoral program: Therapeutic dentistry

Autor: Dr. Denitsa Georgieva Zaneva-Hristova

Form of doctoral studies: PhD student

Department: Department of Conservative Dentistry and Oral Pathology, MU Varna

Topic: “Comparison of treatment methods for chronic periapical inflammatory diseases “

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1. General presentation of the procedure and the doctoral student

The presented complete set of materials regarding the dissertation is on electronic media and is in accordance with the Regulations of MU-Varna.

Dr. Denitsa Georgieva Zaneva-Hristova was born in 1991 in the city of Varna. In 2016 he graduated with a master's degree in dental medicine. From 01.10. Since 2016 she has been an assistant in the Department of Conservative Dentistry and Oral Pathology, FDM-Varna.

On July 16, 2018, Dr. Zaneva was enrolled as a doctoral student in a full time PhD in a doctoral program: "Therapeutic Dentistry" at the Department of Conservative Dentistry and Oral Pathology of the FDM-Varna for a period of 3 years by order of The Rector of MU-Varna № P-109-446 / 16.07.2018 and was expelled by order № P-109-247 / 09.06.2021.

The doctoral student has enclosed digital copies of 3 full-text publications related to the dissertation.

Structure of the dissertation

The dissertation is presented on 185 pages, contains 5 appendices, a list of publications and participation in scientific forums related to the dissertation.

The structure of the dissertation includes: introduction - 1 page, literature review - 46 pages, aim and tasks - 1 page, materials and methods for each task (from 1 to 5) - 16 pages, the results and the discussion are presented together on the individual tasks - 76 pages, conclusions - 2 pages, contributions - 1 page, bibliography - 22 pages, publications and scientific communications in connection with the dissertation - 1 page, appendices - 11 pages.

2. Relevance of the topic

The presented dissertation deals with an up to date problem related to the treatment of chronic periapical lesions in one visit or in multi-visits. The microbial factor is the main cause of most of these diseases. Their removal is one of the most important factors in the treatment, and this



is achieved mainly by cleaning and shaping the root canals, as well as by using additional medication, which leads to the multi-visits treatment.

The approach to single-visit or multi-visits treatment is largely individual and depends on a number of factors - the macroorganism and the degree of infection in the root canal system.

3. Relevance of the problem

The literature review covers 46 pages. It is presented in chapters, and is related to the future experimental and clinical part of its own research. It is based on 199 literature sources, 5 of which are in Cyrillic and 194 in Latin (56% are from the last 10 years).

The literature review addresses the issues of single-visit and multi-visits treatment of chronic periodontitis and the medications used in them. The two methods are compared with their advantages and disadvantages. Attention is paid to the importance of microorganisms for the development of chronic periodontitis. The results of the endodontic treatment are compared by taking microbiological samples at different stages of the treatment. In the review, the doctoral student also considers the issue of postoperative pain as a complication after the end of endodontic treatment or between visits. NSAIDs are listed as the most commonly used pain medications. The issue of control of the results of the healing process in one-visit and multi-visits method by X-ray method and CBST is considered.

The literature review ends with a summary of the unsolved problems and motivation for the development of the dissertation topic.

The bibliography does not use a uniform format for writing literary sources. The literature review is structured on the basis of statements and results by various authors through bibliographic enumeration. It should contain a more analytical approach.

4. Research methodology

Based on the analysis from the literature review, the purpose of the dissertation is formulated, namely: to compare the methods of treatment of chronic periodontitis and to compare and study the effectiveness of different materials used for their treatment.

The selected materials and methods correspond to the set tasks for achieving the goal. The following methods were used:

For Task 1, a survey was conducted among 80 dentists from Varna and Sofia regions during events organized by the professional organization. This number of participants is not enough for an in-depth analysis of the results.

A survey was conducted among patients - 31 patients treated by a single-visit method and 40 - by a multi-visits method in order to monitor postoperative pain. The pain was followed immediately after obturation of the root canals, on the 6th, 24th, 48th hour and 7 days after their filling. In multi-visits treatment and after application of intracanal dressing. A visual analog scale was used to record the pain.

Clinical trials:

The study included 100 patients with asymptomatic chronic periodontitis, permeable root canals, without the presence of fractured instruments.

For task 2 of 31 patients with chronic periodontitis, registered by appropriate radiographic technique, microbiological samples were taken from the root canals - after determining the working length and after complete treatment of the root canal. The treatment is a one-visit method.

For Task 3 - 23 microbiological samples are taken from 23 patients at the first visit - before and after root canal treatment. A calcium hydroxide medication insert is applied for 7 days. A third

microbiological sample was taken at the second visit after removal of the dressing with 5.25% NaOCl and 0.9% saline.

For task 4, 23 patients were treated in a multi-visits method by placing a sterile cotton swab in the cavum pulpae between visits. In 4 patients 3 microbiological examinations were performed in stages as in task 3.

For task 5, 23 patients were treated in a multistage method by irrigation with 2% chlorhexidine and ultrasonic activation. The teeth are temporary filled with a dry sterile swab. In 6 patients 3 microbiological examinations were performed in stages similar to those in Task 3.

The results were followed for a one-year period using an assessment with a periapical index according to Orstavik, 1986.

The microbiological samples (161 pieces) were tested in a private specialized medical-diagnostic laboratory "CityLab" - Varna. Cultural methods were used.

Appropriate **statistical methods** for data processing have been used.

The results are illustrated with 96 figures and 46 tables. The discussion made compared to other similar studies is insufficient and it varies from half a page on tasks 1, 4, 5 to a page and a half on tasks 2 and 3. Thus, the total discussion of the results on all 5 tasks is about 4.5 pages.

Conclusions - 12 conclusions are presented, which are in correlation with the set tasks. Some of them could be specified according to the obtained results.

5. Characteristics and evaluation of the dissertation and contributions

In the dissertation research on the advantages and disadvantages of single-visit and multi-visits treatment of asymptomatic chronic apical periodontitis has been performed. The reduction of pathogenic microorganisms in the course of endodontic treatment was monitored and a thorough analysis of postoperative pain in single-visit and multi-visits treatment was performed.

A survey of dentists found that 83.75% of dentists use a multi-visits method of treating asymptomatic apical periodontitis. 98.51% - apply calcium hydroxide alone or in combination with another drug as an intracanal dressing. Most dentists do not use a rubber dam. To monitor the results of the treatment, an X-ray is prescribed between the third month and the second year.

A patient survey found that patients treated with the multi-visits method were more likely to report postoperative pain.

The importance of root canal treatment and irrigation for the reduction of pathogenic microorganisms has been confirmed.

E. faecalis is isolated predominantly in the analysis of microbiological samples in all tasks, but it is not clear from which cases - the primary treatment or the retreatment.

A success rate of 95% was achieved in the one-visit treatment.

The beneficial effect of periapical change after application of calcium hydroxide as an intracanal dressing in multi-visits treatment was confirmed.

It was found that multi-visits treatment without intracanal medications does not lead to satisfactory results in assessing the reduction in the size of the periapical lesion.

It was found that the use of 2% chlorhexidine as an endodontic irrigant by additional activation with ultrasound leads to a satisfactory reduction in the size of the periapical lesion.

Based on the overall development, 2 contributions with original character and 3 contributions with confirmatory character have been formulated. The second contribution of an

original nature is a well-known fact and I do not accept it as such. It can be referred to as a confirmatory contribution.

6. Evaluation of the publications and personal contribution of the doctoral student

Digital copies of 3 full-text scientific publications, related to the dissertation, in Bulgarian editions are presented. In all of them the doctoral student is the first author.

Dr. Denitsa Zaneva-Hristova also presented 2 scientific presentations at national forums.

I believe that the dissertation and its contributions are personal work of the doctoral student, carried out under the guidance of her scientific advisor

Remarks on the presented dissertation:

The literature review is structured on the basis of statements and results by various authors through bibliographic enumeration. It should contain a more analytical approach.

The discussion made compared to other similar studies is insufficient and it varies from half a page on tasks 1, 4, 5 to a page and a half on tasks 2 and 3. Thus, the total discussion of the results on all 5 tasks is about 4, 5 pages.

For a more precise and in-depth analysis of the treatment of chronic periodontitis, it is important whether primary treatment or retreatment is performed (it is important for microbiological research, as well as for cleaning and shaping the root canals). This is not specified in the dissertation.

Despite the presented remarks, a sufficient amount of clinical work was performed and a comparison was made between the treatment in one visit and in multi- visits. The material is sufficient for the development of the dissertation and the implementation of the set aim.

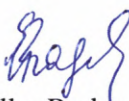
7. Abstract

The abstract is presented on 68 pages and includes 5 tables and 84 figures. The abstract in terms of content meets the requirements of the Regulations of MU-Varna and comprehensively reflects the obtained results.

CONCLUSION

With this review, I give my *positive assessment* of the conducted research presented in the dissertation, abstract, results and contributions, and *I propose to the honorable scientific jury to award the educational and scientific degree "Doctor" of Dr. Denitsa Georgieva Zaneva-Hristova* in doctoral program in Therapeutic Dentistry.

August 14, 2021.

Prepared the review: 
(Assoc. Prof. Dr. Elka Radeva, DMD, PhD)