

## REVIEW

of the scientific dissertation presented by  
**Dr. Alexander Ivanov Georgiev, entitled**  
**"The effects of cardiovascular diseases and diabetes on dental treatment"**

**elaborated by Prof. Laura Stefanova Andreeva - Gurgurieva, DM, DMSc.,**  
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The dissertation, submitted for review, contains 172 pages, 172 literary sources, 46 tables, 27 figures and 4 appendices.

**The problem and its topicality:** The ailments having considerable social significance - like the cardiovascular diseases and diabetes - are a part of our daily lives and regarding some dental procedures, they are an important risk factor. Studying the problems, which pose a threat to the patients suffering from these maladies, is both beneficial to and a means of protection for the specialists working in the sphere of dental medicine.

**Literary review:** An in-depth, detailed literary review has been performed. Information on the problems related to the treatment of patients, suffering from the above quoted diseases, has been presented, namely: √ alterations in the oral cavities of patients with cardiovascular diseases and diabetes; √ effects from the administering of medications on the oral mucosa; √ medicines which can complicate dental manipulations; √ the medicines which can complicate dental manipulations are arranged by groups; √ the volume of invasive interventions has been carefully systematized into "large, medium and small"; √ the established volume determines the subsequent change in the schedule for taking certain medications which have an impact on dental manipulations.

The information, thus collected, could be beneficial to the process of setting up effective behavioral patterns during the dental treatment of such patients.

The **objective**, pursued by the authors, is clearly formulated: to monitor the rate of success of the invasive dental treatment of patients, suffering from cardiovascular diseases and diabetes when compared to the treatment of healthy individuals.

To achieve this objective, **4 distinct tasks** have been defined.

The **material** was collected from: √ a control group of 22 healthy patients who underwent 83 manipulations; √ 20 patients with some form of cardiovascular disease and diabetes who underwent 341 invasive procedures.

**The investigation methodology:** To achieve the formulated tasks, a special "Anamnesis card", "Clinical Card" and two informed consents were prepared (shown in appendices 1, 2, 3 and 4). A specific clinical examination of the patients was completed, plus the required X-rays, including CBCT. A 5 ml blood test was performed on each patient for CBC, ASAT, ALAT, INR, CRP and other specific indicators of the respective disease.

**The results** have been proven by the available modern, statistical methods.

**Regarding task № 1: "*Building a profile of a patient in need of invasive dental treatment in terms of age, gender and clinical health*".** The profile of the patients in need of invasive dental treatment is as follows: √ 47.6% of them were men and 52.4% - women; the majority of these individuals were found to suffer from concomitant diseases and they fell within the 45 - 59 years age group. Blood tests were performed in order to determine the observed deviations.

**Regarding task № 2: "*Investigating the rate of success of the invasive treatment of healthy patients*".** The results obtained have evidenced a high success rate equal to 97.5%, which is in corresponding with the available literary data. It was found that the examined blood parameters show no change.

**Regarding task № 3: "*Investigating the rate of success of the invasive treatment of patients suffering from cardiovascular disease and undergoing anticoagulant/antiplatelet therapy*".** Most of the invasive procedures - 216 in all - were performed on patients with cardiovascular disease undergoing anticoagulant/antiplatelet therapy. The rate of success of these manipulations is very high - 95% on the average - when performed in compliance with the rules for the preliminary preparation of medicinal administration prior to the intervention, an adequate post intervention period and controlled monitoring. For the purposes of the scientific research, the authors have drawn up a statistical model of the estimated failures of the investigated invasive manipulations. Based on the results obtained, they have forwarded recommendations on the behavior of patients undergoing anticoagulant/antiplatelet therapy.

**Regarding task № 4: "*Investigating the rate of success of the invasive treatments of patients suffering from diabetes*".** The authors have been able to prove a high success rate of some 90 - 95%, which is in conformity with the operational protocols. Based on the results obtained from these protocols, and as confirmed by the

literary sources, a "Plan for the invasive dental treatment of diabetics" was set up. The dissertation goes on to define three degrees of disease control, which determines the magnitude of the risk of dental manipulation.

**Conclusions:** The conclusions have been arranged into three major groups - anamnestic data, clinical and laboratory investigations. Instructive results from the relative share of hypertensive and anticoagulant drug administration are presented as well as a confirmation of the fact that the average age of the population suffering from cardiovascular disease and diabetes is dropping considerably.

A high success rate of the manipulations on ailing patients was established when compared to those from the control group. Blood parameters have also found to be stable.

The scientific work presented is a pilot study of two socially significant ailments - the cardiovascular disease and diabetes. The epidemiological study of their prevalence, broken down by age, sex and severity, has drawn the attention of dentists and to an effort in the performance of an in-depth targeted research. Based on the established changes in the blood tests, protocols for the behavior of the dentists have been derived. In addition it has been confirmed that given full conformity with the requirements for the preliminary preparation of the patient has given positive final results. The fact that a growing number of younger people suffer from the socially important diseases, mentioned above, does not mean that they should be deprived of the opportunity to enjoy good oral health.

Thus, the presented dissertation conforms with the adopted requirements.

In consideration of the above said, I hereby give my **positive assessment** of the research presented and described in the above reviewed dissertation, the abstract, the results obtained and the contributions made and **I invite the esteemed scientific jury to award** Dr. Alexander Ivanov Georgiev with the educational and scientific degree of "Doctor" of the "Therapeutic stomatology" doctoral program.

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City of Sofia

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