



SEMMELWEIS UNIVERSITY

Faculty of Dentistry

Department of Restorative Dentistry and Endodontics

Head:

Professor János Vág DMD, PHD

Dental microbiology team

Topic leaders:

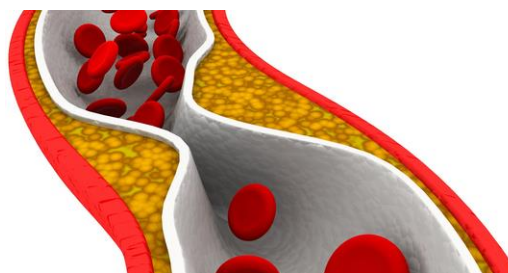
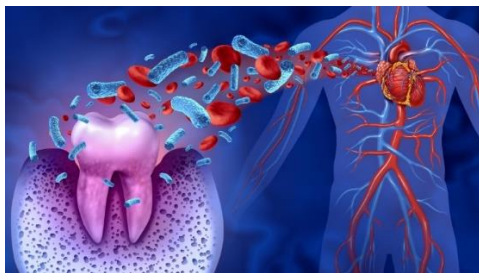
1/1. Members of the team: Enikő Szabó, Zsolt Lohinai

2/1. Title: **Role of oral pathogens in the development and progression of cardiovascular disease**

3/1. Abstract:

In the past few decades, a number of publications have dealt with the relationship of periodontal and cardiovascular disease. Certain studies demonstrate the role of periopathogenic bacteria in the development and progression of aorta aneurysm and atherosclerosis. The pathomechanism of specific bacteria, like *Porphyromonas gingivalis* is well described. We would like to further highlight this relationship by microbiological and molecular methods.

1. We compare the prevalence of periopathogenic bacteria taken from oral samples and cardiovascular surgical samples.
2. We compare the prevalence of periopathogenic bacteria at the different oral sites
3. We compare the prevalence and diversity of periopathogenic bacteria in different severity of periodontitis
4. We determine the innate immunity of the gingival sulcus by selective SNP genotype allele profiling



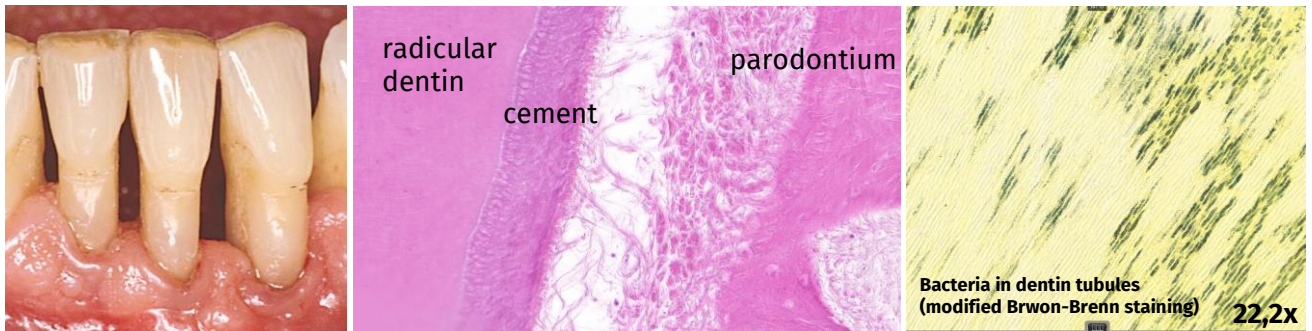
1/2. 1/1. Members of the team: Enikő Szabó, Zsolt Lohinai

2/2. Title: **Relationship between periodontal and endodontal inflammation**

3/2. Abstract:

The pulp, like other organs of the body reacts to inflammatory noxa and bacterial presence. Contradictory data are found about the relationship of periodontal inflammation and pulpal changes. Considering this, it is still a debate whether teeth undergoing periodontal treatment must also be treated endodontically even if the pulp is vital. In our studies we collect data on the effect of periodontal inflammation and treatment on the status of the pulp by histological and microbiological methods.

1. We assess the pulpal state of the tooth showing periodontitis by clinical assessment
2. We determine the possible ways and intensity of bacterial infection of the root wall depending and its correlation to the pulpal state
3. We assess the possible effect of root planning on the pulp
4. we assess the possible role of cervical abrasion on the infection of the dentin



1/3. 1/1. Members of the team: Enikő Szabó, Zsolt Lohinai, Polyák Melinda

2/3. Title: **Effectiveness of endodontic irrigants**

3/3. Abstract:

In secondary/persistent endodontic infections disinfection of the root canal is a challenge for the endodontist. There is a need for irrigants that are able to penetrate into the mechanically unreachable areas of the canal. The limitation of sodium hypochlorite is its big surface tension, which may result in restricted penetration of the irrigant into small tubules and canals.

In our study we compare the effectiveness of sodium hypochlorite and hyper-pure chlorine dioxide. After retreatment the tooth with periapical lesion will be followed for four years clinically and radiologically. During root canal treatment microbial samples are taken from the canal: 1) from the infected canal after removing the root canal obturation, 2) after disinfection and a one-week temporization. The microbial composition of the samples are evaluated qualitatively and semi-quantitatively by culturing and molecular methods.



5. Grants in the topic:
Dental Faculty Grant 2019

6. Conference:
ESE Biennial Congress 2022, Budapest

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