

# 25<sup>th</sup> Euro Dentistry Congress

September 20-21, 2017 Dublin, Ireland

## Periodontal pathogens and glycemic control of diabetic patients

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Periodontal disease is of microbial origin and is the major cause of tooth loss in adult humans. The disease serves as a convenient experimental model for analysis of many aspects of chronic inflammation. Both periodontal disease and diabetes have major inflammatory components. Diabetes is a systemic disease with many major complications that may adversely affect quality and length of life. The disease is characterized by an increased susceptibility to infection, poor wound healing, and increased morbidity and mortality associated with disease progression. Studies have demonstrated the influence of periodontal pathogens on diabetes mellitus. Periodontal pathogens may cause an increase in proinflammatory cytokines that mediate an increase in insulin resistance, resulting in an increase in blood glucose. Chronic systemic increase of proinflammatory cytokines caused by periodontal disease may even predispose individuals to the development of type 2 diabetes. Our research has shown the influence of periodontal pathogens on the metabolic control of diabetic patients and that the presence of periodontal pathogens in subgingival plaque samples is different according to probing depth and according to the metabolic control of diabetic patients. The presence of five different periodontal pathogens was tested in plaque samples from pockets with different probing depths. The highest number of periodontal pathogens was found in 5-7 mm deep periodontal pockets and a few at 8 mm and deeper. In 38 subgingival samples, *T. forsythia* was found most frequently (N=20, 48%) followed by *T. denticola* (N=13, 31%) and *P. gingivalis* (N=11, 26%) and *P. intermedia* (N=4, 9%). *A. actinomycetemcomitans* was found only in three samples (7%). *T. forsythia* and *T. denticola* were the most frequently found bacteria in subgingival plaque samples in our study, and only the presence of these two periodontal pathogens correlated with poorer metabolic control in type 1 diabetes patients. The results of our studies show the importance of good oral health for the diabetic patients and the importance of regular checkups and thorough periodontal therapy.

### Biography

Rok Schara is Dental Medicine doctor and completed his PhD in Medicine, now working as an Associate Professor of Oral Medicine and Periodontology at University of Ljubljana, Slovenia. He is a Specialist, working at Periodontology department of the University Medical Centre, Ljubljana. He is also a member of the Medical Chamber of Slovenia, member of Slovenian Society of Periodontology, member of the European Federation of Periodontology, member of the International Academy of Periodontology. His field of research is determining the factors of correlation between periodontal disease and diabetes. He is also involved in the research of the use of magnetic resonance imaging in the diagnosis of periodontal disease.

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