

DENTAL CARIES AND SALIVARY BACTERIA IN SCHOOL CHILDREN AT AGE OF 12 WITH PRESENT AND ABSENT DENTAL CARIES

Sanja Nashkova^{1*}, Cena Dimova¹, Katerina Zlatanovska¹, Natasha Longurova¹,
Sandra Atanasova¹, Ljubica Prosheva¹

Faculty of Medical Sciences, Dental medicine - University "Goce Delcev" - Stip, Krste
Misirkov 10-A, 2000 Stip, Macedonia

*e-mail: sanja.naskova@ugd.edu.mk

Abstract

A group of phenotypically similar bacteria, collectively known as mutant streptococci, are considered as the main bacterial components responsible for the onset and development of cavities. The aim of our study is to identify the salivary bacteria (*Lactobacillus* spp., *Streptococcus mutans*, *Streptococcus sobrinus*, *Streptococcus salivarius* and *Streptococcus mitis*) and analyze their interdependence with the dental status. The study included 71 children (26 female and 45 male) at the age of 12 years. According to their dental health status, they were divided into: control group - 31 examinees without caries, missing teeth (extractions) and dental fillings (DMF = 0); and experimental group - 40 examinees with caries, missing teeth (extractions) and dental fillings. In all examinees clinical and microbiological examinations were carried out. The lactobacilli in the saliva were determined with a diagnostic test CRT-bacteria (Vivadent, Schaan, Lihtenstein). Undivided sputum samples with sterile swabs were planted on Mitis Salivarius Agar (Fluka, a substrate with sucrose, glucose, trypan blue and crystal violet) which is recommended for the isolation of mixed cultures of streptococci, in particular: *Streptococcus mitis*, *Streptococcus mutans*, *Streptococcus salivarius*, *Enterococcus faecalis*, etc. Between the detected bacteria in the saliva - *Streptococcus mutans*, *Streptococcus sobrinus*, *Streptococcus salivarius*, *Streptococcus mitis* and the existence of dental caries there is a significant correlation ($p < 0.001$). Between the presences of *Lactobacillus* spp. in the saliva and the existence of dental caries there is a significant correlation ($p < 0.01$). The salivary bacterial parameters can be used as serious screening factors and can seriously participate as an instrument in the assessment of the dental caries risk.

Key words: Dental caries, Salivary bacterial, *Lactobacillus*, *Streptococcus mutans*, *Streptococcus sobrinus*, *Streptococcus salivarius*, *Streptococcus mitis*.