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Temporomandibular Joint Examination and Perioparodontal Pathogens in Patients with Dental Implants.

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To our knowledge there are not any literature data regarding analysis of temporomandibular disturbance in patients with implants with regard to the finding of periodontal pathogens, i.e. *A.actinomycetemcommitans, P.gingivalis, T. forsythia, P. intermedia, T. denticola* and *F.nucleatum.* This study was approved by Ethical Committee of the School of Dentistry, University of Zagreb, Croatia and every participant signed an informed consent according ot the Helsinki II. A questionnaire was made for the purpose of this study where data regarding age, gender, systemic diseases, medication intake, smoking and alcohol consumption as well as periodontal status and presence of bacteria were recorded. In 51 patients, age range 22-86 years, average age 56.5 years, 136 implants were inserted. Analysis of the temporomandibular joint was performed according to Bezuur and Hanson. Microbial samples were taken six months after the implants have been placed, three times during 10 seconds with sterile paper points in gingival sulcus, perimplant tissue and abutment seating. Samples were taken with paper points and analyzed with real-time PCR (Carpagen® GmbH, Münster, Germany).

Statistical analysis

The appearance of bacteria was tested by logistic regression analysis and odds ratio with 95% confidence interval for every variable. Correlation between binary dependant variables with more predictors, independant variables measured with various scales, was determined with multivariate (adjusted) binary logistic regression. All statistical data was analyzed by SPSS 17.0 (SPSS Inc., Chicago, IL, USA).

The results of this study show that there were no differences in the finding of *A.actinomycetemcommitans, P.gingivalis, T. forsythia, P. intermedia, T. denticola* and *F.nucleatum* with regard to the temporomandibular disturbances in patients with dental implants. It seems that temporomandibular disturbances do not increase presence of certain bacteria.

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Table 1: Difference in the number of investigated bacteria and elements of TMJ examination.

	n	K-S/S -W P	medijan	(IQR)	P
Lateral tip, static position					
no	16	0,385	2,5	(1-3,8)	0,113
yes	35	0,006	3	(2-5)	
Lateral tip, while opening					
no	16	0,479	2,5	(1,3-3,8)	0,120
yes	35	0,010	3	(2-5)	
Retrocondilar space					
no	18	0,325	2	(1-4)	0,093
yes	33	0,040	3	(2-5)	
Crepitations					
no	29	0,124	3	(1,5-4)	0,455
yes	22	0,164	3	(2-5)	
Tenderness of masticatory muscles					
no	21	0,185	2	(1-4)	0,168
yes	30	0,065	3	(2-5)	
Reciprocal click					
no	38	0,063	3	(2-5)	0,586
yes	13	0,526	2	(1,5-4,5)	
Click while opening					
no	30	0,008	2,5	(1-5)	0,452
yes	21	0,451	3	(2-4,5)	
Other click or sound					
no	39	0,039	3	(2-5)	0,608
yes	12	0,083	2	(2-4,8)	

There were no significant differences in the number of investigated bacteria and TMJ examination (Table 1).