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Salivary mineral characteristics, oral hygiene and periodontal health
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Many clinical studies are lacking to prove and determine mechanism by which calcium and magnesium are associated with periodontal disease. The purpose of this study was to evaluate the association of saliva calcium level, the calcium/magnesium (Ca/Mg) ratio and calcium/phosphate (Ca/P) ratio with periodontal disease variables among young and healthy subjects, adjusted for smoking habits. The study encompassed 21 subjects aged 27-30 years. A structured questionnaire about general information, self-report smoking and oral hygiene habits were filled out. Clinical periodontal examination was performed with graduated periodontal probe on six sites per tooth. Examination included the assessment of dental plaque (DP), presence of supragingival calculus (SC), bleeding on probing (BOP), probing depth (PD) and clinical attachment level (CAL). Unstimulated saliva samples were collected during 5 minutes in preweighted sterile cups and were processed with spectrophotometry methods for determination of calcium, magnesium and phosphate. Salivary flow rate was measured and pH was recorded by pH-meter. Salivary minerals, calcium, magnesium and phosphate were correlated with salivary flow and salivary pH within physiologically expected values and relations. Lower salivary Ca/Mg ratio was significantly correlated with higher plaque index (p<0.05). Lower salivary Ca/P ratio was significantly correlated with lower mean periodontal depth (p<0.05). Salivary Ca/Mg ratio and Ca/P ratio are more indicative in periodontal status than calcium, magnesium and phosphate levels and their content in saliva. This study was supported by the Croatian Ministry of Science, Education and Sport.