SALIVARY S100 PROTEINS SCREEN INCIPIENT PERIODONTITIS AMONG KOREAN ADULTS

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Aim: This study aims to evaluate the association of salivary S100-A8 and A9 proteins (S100-A8 & A9) with periodontitis and its screening ability on periodontitis.

Material and Methods: We selected 326 participants from the Yanypyeong Cohort: 218 participants with periodontitis and 108 participants without periodontitis. Periodontitis was assessed by dentists using a panoramic radiograph. S100-A8 & A9 were assayed using enzyme linked immunosorbent assay (ELISA). Age, sex, education, smoking, drinking, exercise and metabolic syndrome were factored as confounders. Analysis of covariance were applied to evaluate the association between S100-A8 & A9 and periodontitis. Receiver operating characteristic curve was applied for screening ability (c-statistics).

Results: Those with periodontitis compared to those without periodontitis showed higher adjusted amount of S100-A8 (3694 vs. 6757 ng/ml, $p<0.001$), but less adjusted amount of S100-A9 (1341 vs. 1030 ng/ml, $p=0.015$). The final screening model using S100-A8 & A9 had a c-statistic of 0.67 ($p <0.001$) for both S100-A8 & A9, 0.64 for S100-A8 and 0.65 ($p <0.001$) for S100-A9.

Conclusions: Our data show that salivary S100-A8 and A9 proteins could be potential markers for periodontitis. The screening model for periodontitis could be useful in clinics and at home. A future diagnostic clinical trial is indicated to confirm the predictability of salivary S100-A8 and A9 proteins on periodontitis.

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