Saliva in monitoring diabetes

Astaniee et al [24] in diabetics and by Clec et al [26] in people with periodontitis. It can be thus inferred that salivary MDA levels could as well reflect serum MDA levels without any difference. In control population, MDA levels correlated significantly only with SG levels (r =0.614; Table 3). SG rather than FPG could be a better marker of oxidative stress in these people considering the fact that SG levels did not differ between two groups.

Oral health status was evaluated by salivary pH and CPI score. Diabetic group had significantly altered pH (acidic) pointing to poor oral health. Decrease in pH favors microbial growth, a common manifestation in diabetes [2,3,13,20] which is known to further disturb the status. Thriving microbes using the available glucose can also be an explanation for normalization of SG in this group.

The CPI score although not significant showed a negative correlation with MDA levels in both the groups suggesting that, increase in MDA levels was associated with decrease in CPI scores in both the groups. As per scoring pattern lower scoring indicates poorer periodontal health status, suggesting oral health may be influenced by MDA levels which in turn are affected by FPG or SG levels.

Overall, salivary glucose concentrations showed no difference between two groups implying association of high plasma glucose with high SG levels to be an infrequent observation which may be affected by metabolic control of the disease. Significant positive correlation of FPG with SG in diabetics further supports this aspect. Hence the usage of SG as the only tool for evaluating glycemic status is debatable. Studies to compare long term indicators of glycemic status viz HbA1C, fructosamine levels with salivary glucose / glycated proteins can be undertaken. Salivary MDA is not completely elucidated as to its content, composition and source. Advances in uncovering the origin of these markers of lipid peroxidation may have profound importance in evaluation of diabetes.

References

21. Reutervering CO, Reutervering G, Hägg E, Ericson T. Salivary flow rate and salivary glucose concentration in