Salivary Proteins Associated with Periodontitis in Patients with Type 2 Diabetes Mellitus

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Abstract: The objective of this study was to investigate the salivary proteins that are associated with periodontitis in patients with Type 2 diabetes mellitus (T2DM). Volunteers for the study were patients from the Diabetic Unit, University of Malaya Medical Centre, whose periodontal status was determined. The diabetic volunteers were divided into two groups, i.e., patients with periodontitis and those who were periodontally healthy. Saliva samples were collected and treated with 10% TCA/acetone/20 mM DTT to precipitate the proteins, which were then separated using two-dimensional polyacrylamide gel electrophoresis. Gel images were scanned using the GS-800™ Calibrated Densitometer. The protein spots were analyzed and expressed in percentage volumes. The percentage volume of each protein spot was subjected to Mann-Whitney statistical analysis using SPSS software and false discovery rate correction. When the expression of the salivary proteins was compared between the T2DM patients with periodontitis with those who were periodontally healthy, seven proteins, including polymeric immunoglobulin receptor, plastin-2, actin related protein 3, leukocyte elastase inhibitor, carbonic anhydrases 6, immunoglobulin J and interleukin-1 receptor antagonist, were found to be differentially