

GLYCOSYLATED HAEMOGLOBIN (HbA_{1C}) LEVELS IN PATIENTS WITH CHRONIC PERIODONTITIS AND IT'S RESPONSE TO NON SURGICAL PERIODONTAL THERAPY

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Periodontal diseases are chronic in nature, which may lead to destruction of supporting tissues of the tooth. In light of the extensive microbial plaque associated with periodontal infections, the exuberant local and systemic responses to the microbial assault and the chronic nature of the disease, it is sensible to hypothesize that these infections may influence overall health and the cause of some systemic diseases. (Research, Science & Therapy Committee of American Academy of Periodontology – 1998)

A high prevalence of severe periodontal diseases was observed in diabetes subjects with complications such as retinopathy, neuropathy and nephropathy than those without complications. (Glavind et al. 1969, Rylander et al. 1986, Bacic et al. 1988, Rosenthal et al. 1988) The degree of these complications was strictly related to the degree of metabolic control of diabetes, which was assessed by the level of glycosylated haemoglobin (HbA_{1C}) - the most accurate method to be used for this purpose (Rahlenbeck, 1998). However the converse possibility, that periodontitis predisposes or exacerbates diabetes (Tellervo Tervonen et al. 1997) has received little attention.

This is a preliminary study to investigate the effect of periodontal therapy on glycosylated haemoglobin (HbA_{1C}) level in otherwise healthy patients with moderate to severe adult periodontitis. The study sample consisted of fifteen subjects (mean age 42 ± 8 years) with moderate to severe adult periodontitis subjects. The level of periodontal disease and oral hygiene were assessed using probing pocket depth, bleeding on probing, number of sites with >4mm pocket depth and plaque score. All patients were subjected to non-surgical periodontal therapy without antibiotics. Patients were reevaluated for their periodontal disease conditions as well as for the level of oral hygiene using the same criteria. This was carried out ten weeks after the completion of periodontal treatment which was approximately 3-4 months from the baseline. Estimation of Glycosylated Haemoglobin (HbA_{1C}) levels was done at baseline and at reevaluation.

Results were analyzed by using student t-test. Based on clinical parameters a significant improvement ($p < 0.05$) was observed in periodontal disease condition after periodontal therapy. A statistically significant reduction of HbA_{1C} levels after therapy was observed in patients who initially exceeded the upper limit of the normal range of HbA_{1C} (>8% of total haemoglobin). The changes observed in patients with normal HbA_{1C} levels at the baseline were not statistically significant ($p > 0.05$). This study also reveals a statistically significant correlation between improvement of probing pocket depth and reduction in glycosylated haemoglobin (HbA_{1C}) levels ($r = 0.93$).