"EFFICACY OF GINGIVAL CREVICULAR BLOOD IN ESTIMATION OF GLUCOSE LEVELS"

By

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ABSTRACT

Background & Objectives: Diabetes Mellitus is the most common systemic disease encountered by a dentist in his regular practice. A strong evidence of increased prevalence and severity of periodontitis is observed among diabetics. As diabetes and periodontitis are both complex chronic diseases, there is a substantial evidence of bi-directional relationship. Periodontal inflammation is known to produce ample extravasated blood during diagnostic procedures. So we thought of conducting a study to determine the efficacy of gingival crevicular blood in estimation of glucose levels.

Methodology: A total of 120 patients belonging to both genders of age group 30 – 70 were selected randomly for the study. The selected sample was divided into 3 groups: Group I - Healthy patients (non-diabetic with healthy periodontium); Group II - Non diabetic with periodontitis; Group III - Diabetes (type 2) with periodontitis. Each group comprises of 40 individuals. The glucose levels are assessed from gingival crevicular blood, capillary finger prick blood, venous blood and glycosylated hemoglobin from all the patients.

Results: The mean value of gingival crevicular blood glucose levels in Group I is 111.90 ± 19.66 mg/dl, Group II is 122.30 ± 27.10 mg/dl and Group III is 233 ± 78.60 mg/dl. On performing t-test for mean values among three groups showed statistically significant results between group I, Group III and Group II, Group III. The Pearson's correaltion between gingival crevicular blood, finger-prick blood, venous blood and glycoylated hemoglobin showed a very strong correlation.

Interpretations and Conclusions: The data from this study has shown that gingival crevicular blood collected during diagnostic periodontal examination can be an excellent source of blood for glucometric analysis. For multiple measurements, a dental clinician can use this gingival crevicular blood to test for glucose levels instead

of puncturing the patient's finger tip to obtain a blood sample. It is described as safe, easier, comfortable method and therefore it helps the dentist for screening diabetes in dental clinics.

Keywords : Diabetes mellitus, gingival crevicular blood, chronic periodontitis, capillary finger prick blood, venous blood, glycosylated hemoglobin.