Early detection of periodontitis among young adult cigarette smokers and non smokers using Cone Beam Computed Tomography

(Comparative study)

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By
Maisam Ali Kadhem

B.D.S

Supervised by
Assistant prof. **Dr. Basima Gh. Ali**
B.D.S., M.Sc

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Abstract

Background. Periodontitis is an inflammatory disease that affects the supporting tissues of the teeth; Smoking is an important risk factor for periodontitis, induces alveolar bone loss and cause an imbalance between bone resorption and bone deposition. Clinical and epidemiological studies build up an increasing amount of scientific data which support the concept that tobacco use is an important risk factor that has a clear association with the prevalence and progression of periodontal disease**.**

Aims of the study. The purpose of this study is to detect and compare the presence of incipient periodontitis among young smokers and non-smokers by measuring the distance between cement-enamel junction and alveolar crest (CEJ-Ac) using Cone Beam Computed Tomography (CBCT).

Material and methods. The total sample composed of fifty two participants, thirty one smokers and twenty one non-smokers (age range 14-22 years). The study was cross sectional, periodontal parameters and radiographic analysis were done at the same visit. Periodontal parameters: plaque index (PLI), gingival index (GI) and probing pocket depth (PPD) were recorded for all teeth except the third molar while the radiographic analysis using CBCT was recorded on the ramfjord teeth.

The system included in the study was CBCT extra oral radiography, the unit of measurement was from cemento-enamel junction to alveolar crest distance (CEJ-Ac distance) per site in millimeters.

Results. The results obtained were non significant difference for PLI between young smokers and non smokers, a significant difference of mean of GI between young smokers and non smokers. There was a highly significant difference in the general mean of CEJ-Ac distance between both groups.

There was a significant difference between maxillary and mandibular teeth, a non significant difference between right and left sides among young smokers and non smokers.

Conclusion. The CBCT device plays an important role in detection the incipient form of periodontitis among young smokers and non-smokers, so we concluded that there is a highly significant difference in the general mean CEJ-Ac distance between young smokers and non smokers with increase distance in the maxillary teeth than that in the mandibular teeth.