

University of Baghdad
College of dentistry
Dept. of Oral diagnosis

Assessment of interproximal alveolar bone level in insulin dependant diabetes mellitus patients by using direct digital intra oral imaging system

**A thesis
submitted to the council of the
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Abstract

Background:

Digital imaging system is a technology that uses a sensor, computer and monitor to acquire, process, store, retrieve and display the radiographic image.

Digital imaging is the result of X-ray interaction with electrons in electronic sensor pixels (picture elements), conversion of analog data to digital data, computer processing, and display of the visible image on a computer screen.

Diabetes is the sixth cause leading to death. It is a chronic disease that has no cure. It affect more than 171 million individuals world wide and has reached epidemic status.

Diabetes mellitus is a common disorder that will be encountered by every practicing dentist.

Aims of the study:

The aim of this study was to elucidate the effect of insulin dependent diabetes mellitus on interproximal alveolar bone level radiographically at posterior teeth except third molar and correlate this effect with age, gender and duration of the disease.

Patients, materials and methods:

The study was completed by the participation of 70 individuals (study group: 35 patients; control group: 35 patients), their ages are ranging between (20-30) years. The age of the subjects was divided into two groups:-
First age group: from (20-25), second age group: from (26-30). Study group subjects consist of 8 male and 27 female while control group subjects consist of 10 female and 25 male.

They were collected from popular clinic in Babylon and they were attendant for specialist center in Karballa city.

The patients were subjugated for a list of selected criteria before they were employed in the study.

Digital radiographic examination was done for measuring the alveolar bone level at (distal surface of first premolar, mesial surface of second premolar, distal surface of second premolar , mesial surface of first molar, distal surface of first molar, mesial surface of second molar) in upper and lower jaws, right and left sides by intra oral direct digital intra oral imaging system (Dimax).

Results and conclusions:

Non significant effect was found for age on interproximal alveolar bone level measurements for insulin dependant diabetes mellitus patients.

Non significant difference was found between male and female on interproximal alveolar bone level measurements for insulin dependant diabetes mellitus patients.

Non significant difference for interproximal alveolar bone level measurements between upper and lower jaws for insulin dependant diabetic patients.

Non significant difference for interproximal alveolar bone level measurements between right and left sides for insulin dependant diabetes mellitus patients.

There was highly significant effect for duration of disease on interproximal alveolar bone level.

There was highly significant difference in interproximal alveolar bone level between control and study groups for both gender (male and female) at the second age group (26-30) years, also for male at the first age group (20-25) years. On the other hand, non significant difference was found between control and study groups for female at first age group (20-25) years.