Assessment of Mandibular Radiomorphometric Indices as Predictors of Osteoporosis in Postmenopausal wemen (Cephalometric Reconstracted computed tomographical study)

A thesis submitted to the Council College of Dentistry
Baghdad University
In Partial fulfillment of requirement of the degree of M.Sc. in
Oral and Maxillofacial Radiology

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October 2013 A.D   Thu. Al-Hijjah 1434 A.H
Baghdad-Iraq

Abstract

Background: Osteoporosis affects almost all of the bones in the female body, the most important one in the fascial bone is mandible. Menopause is defined as an absence of the menses for one year. During this time, estrongen, progesterone and ovarian androgens production are diminished due to adult onset ovarian failure.

Aim of study:

Evaluation of the use of computed tomography mandibular morphometric indices for an assessment of pre and postmenopausal osteoporotic women.

Subjects and material: This study conducted on 50 Iraqi females divided into 2 groups 20 -30years old as a control group and over50 years old as a study group attending Al-Karkh hospital, Department of Computed Tomography.(each group25 female)

Information from each female was recorded and mentioned on a case sheet specially prepared.

Data collected, when analysed, using SPSS version 13 program loaded on a computer machine.

Results: all the measurements in this study (gonial angle in degree, antigonial angle in degree and depth in millimetre , mandibular and mental thickness in millimetre, bone mineral density in HU and mandibular cortex index),there were no statically significant differences between right and left side P-value <0.001.

Gonial angle had statistically positive linear correlation with age in the study group P-value <0.001.

Bone mineral density and mandibular and mental thickness had statically negative linear correlation with age .

Antigonial angle increased as age increased till reach 180 degree in some cases and the depth decreased correlated to the age till reach zero mm in some cases P-value <0.001.

Mandibular cortex index increased in bone irregularity related to increase in age.

Conclusion: It was concluded that osteoporosis and osteoporosis risk in postmenopausal females could be detected by using CT scan through measuring certain mandibular radiomorphometric indices.