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EVALUATION OF MANDIBULAR CORTICAL THICKNESS IN HUMAN DENTATES USING PANORAMIC RADIOGRAPH

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ABSTRACT

Recent studies suggest that mandibular cortical width on dental panoramic radiographs may be useful screening tool for low skeletal bone mineral density (BMD).

Aim: The aim of this study was to evaluate the mandibular cortical thickness in Egyptian dentates with different ages and sexes using panoramic radiograph.

M. &M.: One hundred and twenty adult patients, sixty females and sixty males with age ranging from twenty to sixty were selected from outpatient dental clinic of Ain-Shams University. By using panoramic radiograph the mandibular cortical thickness was measured bilaterally on each panoramic radiograph at the site of mental foramen. The radiographic analysis was done manually and digitally.

Results: There was no statistically significant difference in cortical width regarding male groups between different age groups ($P < 0.05$) the same result was shown between different age group regarding female groups. While there was highly significant difference between different age group of males versus females ($P < 0.001$), also there was significant inverse correlation between different ages versus cortical width among both males and females.

Conclusion: Cortical thickness of the mandible at the mental region has an inverse correlation with different ages and sexes.

INTRODUCTION

Dental radiography represents the most frequent diagnostic X-ray examination undertaken in the industrialized countries of the world⁽¹⁾.

Bone is a dynamic tissue that is constantly being

removed and replaced with new bone. Normally there is a balance between bone formation and resorption, if there is an imbalance in this equilibrium, either decrease or increase in bone density will occur. Bone strength is determined by bone geometry, cortical thickness, porosity, trabecular bone morphology and

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