

## ABSTRAK

Kualitas tulang adalah jumlah kepadatan jaringan yang dapat diketahui melalui ketebalan kortikal mandibula melalui suatu pengukuran yang disebut *index* radiomorfometri, salah satunya adalah radiomorfometri *Antegonial index* (AI). Manfaat klinis *Antegonial index* (AI) dibidang kedokteran gigi adalah membantu perawatan ortodontik melalui penilaian ketebalan tulang di mandibula. Ketebalan mandibula dilihat berdasarkan titik persinggungan antara kedua garis tersebut dibuat garis yang sejajar dengan molar kedua sampai pada *border endosteal*, Pengukuran ketebalan tulang kortikal mandibula dilakukan pada bidang orientasi sagital terluar tulang mandibula yang secara radiograf terlihat radiopak.

Tujuan penelitian ini adalah mengetahui perbandingan nilai radiomorfometri *Antegonial index* (AI) tulang mandibula menggunakan radiografi panoramik dan CBCT 3-dimensi.

Metode penelitian ini adalah analitik dengan rancangan penelitian non eksperimental (observasional) yaitu cross sectional study yang menggunakan tulang mandibula kering sebagai subjek penelitian. Subjek yang memenuhi kriteria inklusi akan mendapatkan perlakuan yang sama yakni dilakukan pengambilan radiograf panoramik dan radiograf CBCT 3-dimensi, selanjutnya hasil radiograf tersebut akan dilakukan pengukuran ketebalan tulang kortikal mandibula menggunakan *Antegonial index* (AI) untuk melihat perbandingan nilai radiomorfometri.

Hasil penelitian radiomorfometri *Antegonial index* (AI) tulang mandibula menggunakan radiografi panoramik dan CBCT 3-dimensi setelah dilakukan penelitian memperoleh hasil yang berbeda dengan nilai signifikansi  $p = 0.869$  ( $p > 0.05$ ).

Kesimpulan penelitian ini adalah penilaian radiomorfometri *Antegonial index* (AI) CBCT 3-dimensi lebih besar dibandingkan dengan nilai radiomorfometri *Antegonial index* (AI) radiograf panoramik.

**Kata Kunci:** *Antegonial index* (AI), Tulang mandibula, Radiograf Panoramik, Radiograf CBCT 3-dimensi

## **ABSTRACT**

*Bone quality is the amount of tissue density that can be known through the cortical thickness of the mandible through a measurement called the radiomorphometry index, one of which is the radiomorphometric Antegonial index (AI). The clinical benefit of Antegonial index (AI) in the field of dentistry is to help orthodontic treatment through assessing bone thickness in the mandible. The thickness of the mandible is seen based on the intersection between the two lines which are parallel to the second molar to the endosteal border. Measurements of the mandibular cortical bone thickness are performed in the plane of the outermost sagittal orientation of the radiopaque radiopaque.*

*The purpose of this study was to determine the comparison of the antegonial index (AI) radiomorphometric values of the mandibular bone using 3-dimensional panoramic and CBCT radiographs.*

*The method of this research is analytic with a non-experimental (observational) research design, which is a cross-sectional study that uses dry mandibular bone as the research subject. Subjects who meet the inclusion criteria will get the same treatment, namely taking a panoramic radiograph and 3-dimensional CBCT radiograph, then the results of the radiograph will measure the thickness of the mandibular cortical bone using Antegonial index (AI) to see the comparison of radiomorphometric values.*

*The results of the antegonial radiomorphometry index (AI) of the mandibular bone using panoramic radiography and 3-dimensional CBCT after the study obtained different results with a significance value of  $p = 0.869$  ( $p > 0.05$ ).*

*The conclusion of this study is a 3-dimensional CBC radiomorphometry index (AI) assessment greater than the panoramic radiographs of the Antegonial index (AI) radiograph.*

*Antegonial index (AI) radiomorphometry research results using panoramic radiography and 3-dimensional CBCT after the study obtained different results with a significance value of  $p = 0.869$  ( $p > 0.05$ ).*

*The conclusion of this study is the Antegonial index (AI) 3-dimensional CBCT radiomorphometry assessment is greater than the Antegonial index (AI) radiomorphometry of panoramic radiographs.*

**Keywords:** *Antegonial index (AI), Mandibular bone, Panoramic radiograph, 3-dimensional CBCT radiograph.*