# Perbandingan Ukuran Radiomorfometri Mandibula Berdasarkan Kelompok Usia dan Jenis Kelamin Melalui Radiograf Panoramik = Comparison of Mandibular Radiomorphometric Measurements Based on Age Group and Gender on Panoramic Radiograph

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Abstrak

Latar Belakang: Perubahan morfologi mandibula secara umum dipengaruhi oleh faktor usia dan jenis kelamin. Pada pasien lansia, terjadi penuaan berupa atrofi dan resorpsi tulang yang memengaruhi kuantitas tulang mandibula berupa perubahan morfologi yaitu tinggi, lebar, dan bentuk mandibula, serta kualitas tulang mandibula berupa penurunan kepadatan tulang mandibula. Keparahannya bergantung pada beberapa faktor seperti jenis kelamin pasien dan risiko osteoporosis yang terkait dengan usia pasien. Oleh karena itu, diperlukan penelitian untuk mengevaluasi perubahan morfologi dan penurunan kepadatan tulang mandibula berdasarkan jenis kelamin dan usia. Tujuan: Mengetahui dan membandingkan ukuran radiomorfometri mandibula (tinggi ramus, lebar ramus maksimum-minimum, sudut gonial, lebar bigonial, tinggi prosesus kondiloideus dan koronoideus, MCW, dan MCI berdasarkan kelompok usia dan jenis kelamin melalui radiograf panoramik di RSKGM FKG UI. Metode: Studi cross-sectional dengan 268 sampel radiograf panoramik digital laki-laki dan perempuan usia dewasa akhir (44-60 tahun) dan lansia (>60 tahun) yang diukur menggunakan aplikasi I-Dixel Morita. Selanjutnya evaluasi kesepakatan pengukuran intraobserver dan interobserver menggunakan uji ICC dan Kappa. Analisis deskriptif dan uji komparatif dilakukan antar kelompok usia dan jenis kelamin. Hasil: Terdapat perbedaan bermakna secara statistik (p0,05) terkait tinggi ramus, lebar ramus maksimum-minimum, sudut gonial, lebar bigonial, tinggi prosesus kondiloideus dan koronoideus berdasarkan jenis kelamin. Namun, tidak terdapat perbedaan bermakna secara statistik (p>0,05) terkait MCW dan MCI berdasarkan jenis kelamin dengan nilai p = 0.220 dan p = 0.065. Terdapat perbedaan bermakna secara statistik (p0,05) terkait tinggi ramus, lebar ramus maksimum-minimum, sudut gonial, lebar bigonial, tinggi prosesus kondiloideus dan koronoideus, MCW, dan MCI berdasarkan usia pada laki-laki maupun perempuan. Kesimpulan: Tujuh parameter merupakan dimorfisme seksual dan sembilan parameter mengalami perubahan seiring bertambahnya usia.

.....Background: The morphological changes in the mandible are generally influenced by age and gender factors. In elderly patients, aging occurs in the form of bone atrophy and bone resorption, affecting the quantity of mandibular bone, leading to morphological changes such as the height, width, and shape of the mandible, as well as the quality of mandibular bone leading to decreased bone density. The severity depends on several factors such as the patient's gender and the risk of osteoporosis associated with the patient's age. Therefore, research is needed to evaluate morphological changes and decreased bone density in the mandible based on gender and age. Objective: To determine and compare the radiomorphometric measurements of the mandible (ramus height, maximum-minimum ramus width, gonial angle, bigonial width, condylar and coronoid height, MCW, and MCI based on age group and gender using panoramic radiographs at RSKGM FKG UI. Method: Cross-sectional study with 268 samples of digital panoramic radiographs from male and female individuals in middle age (44-60 years) and the elderly (>60 years) measured using the I-Dixel Morita software. Furthermore, the reliability evaluation of intraobserver and

interobserver measurements was carried out by ICC and Kappa tests. Descriptive analysis and comparative tests were performed among age groups and gender. Results: There were statistically significant differences (p0.05) related to ramus height, maximum-minimum ramus width, gonial angle, bigonial width, condylar and coronoid height based on gender. However, there were no significant differences (p>0.05) regarding MCW and MCI based on gender with values of p = 0.220 and p = 0.065. There were statistically significant differences (p0.05) related to ramus height, maximum-minimum ramus width, gonial angle, bigonial width, condylar and coronoid height, MCW, and MCI based on age in males and females. Conclusion: Seven parameters represent sexual dimorphism, and nine parameters undergo changes with increasing age.