

Perbandingan rerata grayscale value tulang kanselus mandibula menurut jenis kelamin, usia, dan besar arus listrik pada radiograf panoramik digital = Comparison of mean grayscale value of mandibular cancellous bone by gender, age, and tube current on digital panoramic radiograph

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Abstrak

Latar Belakang: Bone loss merupakan kondisi yang terjadi seiring penuaan akibat berbagai faktor risiko. Pemeriksaan densitas tulang dapat dilakukan dengan melihat grayscale value tulang kanselus mandibula pada radiograf panoramik digital. Tujuan: Mengetahui perbandingan rerata grayscale value tulang kanselus mandibula menurut jenis kelamin, usia, dan besar arus listrik pada radiograf panoramik digital. Metode: Penelitian ini menggunakan 294 sampel radiograf panoramik digital pria dan wanita berusia 31-75 tahun di RSKGM FKG UI. Rerata grayscale value didapatkan dari pengukuran menggunakan Software I-Dixel Morita© di tulang kanselus mandibula kiri atau kanan daerah apikal regio premolar. Analisa statistik dilakukan 2 kali dengan atau tanpa mempertimbangkan variasi kondisi besar arus(mA). Analisa pertama melibatkan seluruh 294 sampel dengan rentang besar arus 3,3-8 mA. Analisa kedua melibatkan 60 sampel dengan rentang besar arus 5,7-6,4 mA. Hasil: Hasil analisa statistik pertama menunjukkan rerata grayscale value kelompok pria sebesar $113,52 \pm 14,88$ dan kelompok wanita sebesar $109,98 \pm 14,08$. Rerata Grayscale value kelompok usia 31-45 tahun sebesar $112,38 \pm 13,39$, kelompok usia 46-60 tahun sebesar $111,76 \pm 13,75$, dan kelompok usia 61-75 tahun sebesar $111,11 \pm 16,49$. Hasil analisa statistik kedua menunjukkan rerata grayscale value kelompok pria sebesar $116,66 \pm 13,75$ dan kelompok wanita sebesar $105,58 \pm 13,55$. Rerata grayscale value kelompok usia 32-53 tahun sebesar $115,42 \pm 10,89$ dan kelompok usia 54-75 tahun sebesar $106,81 \pm 16,72$. Kesimpulan: Rerata grayscale value tulang kanselus mandibula antar jenis kelamin dan kelompok usia tidak berbeda bermakna (3,3-8 mA). Rerata grayscale value tulang kanselus mandibula antar jenis kelamin serta antar kelompok usia berbeda bermakna (5,7-6,4 mA).

.....Background: Bone loss is a condition that occurs during aging due to various factor risk. Bone density examination can be performed by measuring grayscale value at the mandibular cancellous bone on a digital panoramic radiograph. Objective: To obtain comparison of mean grayscale value of mandibular cancellous bone by gender, age, and tube current on digital panoramic radiograph. Method: This study utilizing secondary data, totally 294 digital panoramic radiograph of men and women age 31-75 years old at RSKGM FKG UI. Mean grayscale value is obtained by measurement using Software I- Dixel Morita© in the left or right mandibular cancellous bone in the apical area of the premolar region. Two alternative statistical analysis were carried out, with or without considering the variation in tube current condition (mA). The first analysis involved all 294 samples with tube current condition range from 3,3-8 mA. The second analysis involved 60 samples with tube current condition range from 5,7-6,4 mA. Result: First statistical analysis showed that mean grayscale value of the men group is $113,52 \pm 14,88$ and women group is $109,98 \pm 14,08$. Mean grayscale value of the 31-45 years old group is $112,38 \pm 13,39$, 46-60 years old group is $111,76 \pm 13,75$, and 61-75 years old group is $111,11 \pm 16,49$. Result from second statistical analyses shows mean grayscale value of the men group is $116,66 \pm 13,75$ and women group is $105,58 \pm 13,55$. Mean grayscale value of the 32-53 years old group is $115,42 \pm 10,89$ and 54-75 years old is $106,81 \pm 16,72$. Conclusion: Mean grayscale value

mandibular cancellous bone by gender and age group are not statistically different (3,3-8 mA). Mean grayscale value mandibular cancellous bone by gender and age group are statistically different (5,7-6,4 mA).