

Morphology Study of the Third Cervical Vertebrae from Digital Panoramic Radiograph

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Aim or Purpose: To evaluate the morphologic findings of the third cervical vertebrae (C3) on panoramic radiograph and to study the relationship between the patient's age group and gender.

Materials-methods: Configurations and dimension of C3 from 178 digital panoramic radiographs of the patients over 50 years of age were observed and measured via the computer monitor (Romexis software version 2.4 R on Windows operating system). Chi-square test, T-test and ANOVA were used for the statistic analysis.

Results: The mean age of the 178 patients was 58.60 years old. Shape of C3 presented as rectangular 58.42%, trapezoid 39.32%, inverted trapezoid 1.68% and rounded 0.56% respectively. The bony outgrowth so called spurs were found in 21.34%. The mean height of C3 in male was 14.13 mm and 13.10 mm in female. The mean spaces between C2 and C3 were 6.31 mm in male and 5.51 mm in female. The space between C3 and C4 was 7.05 mm in male and 6.15 mm in female. There were no statistically significant ($p \leq 0.05$) between gender and age groups of the shape and height of C3 but the disc space between C2–C3 and C3–C4 were statistically significant.

Conclusions: From our study that C3 displayed varieties of shapes and height from panoramic radiograph. The present of spur and also the difference of disc space among the gender and age group should be further investigated for the degenerative defects. Panoramic radiograph could be the primary tool to evaluate morphology and radiographic changes of the third cervical vertebrae.